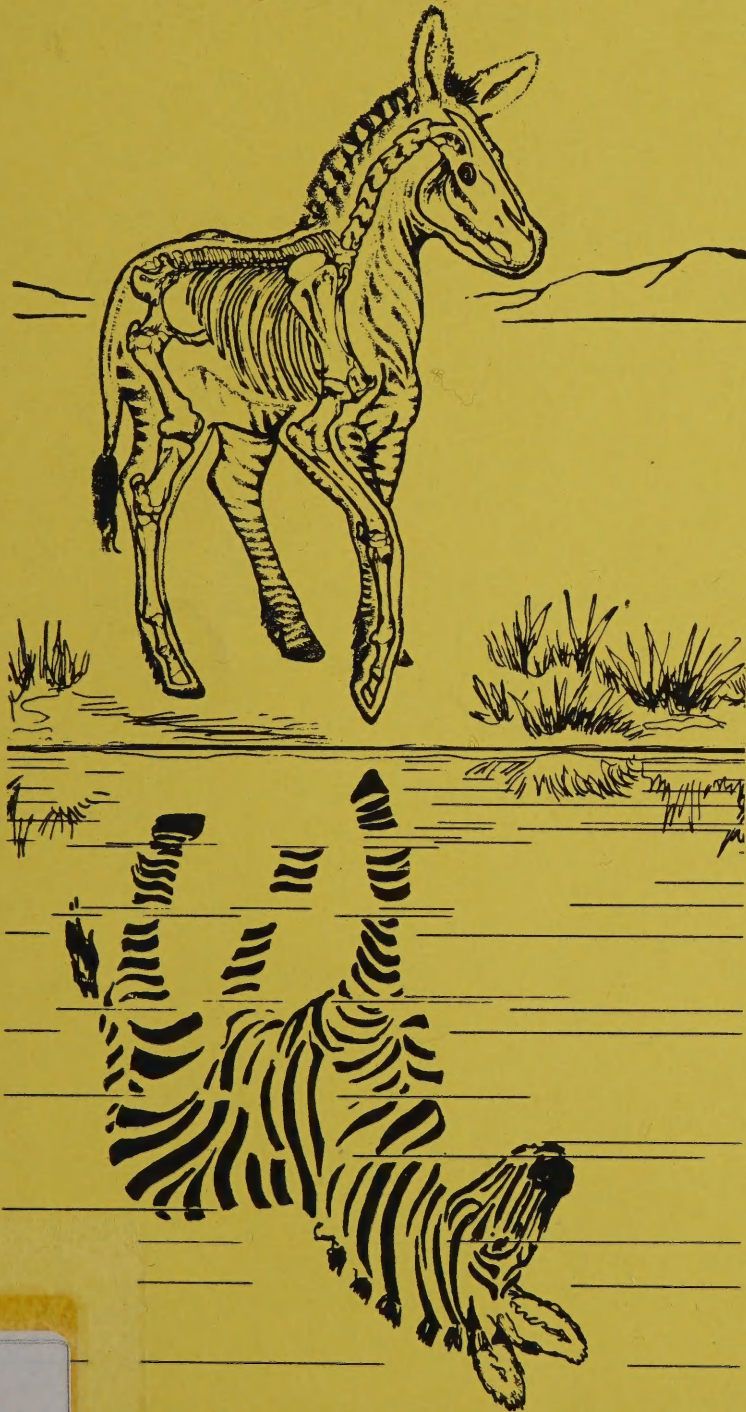


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NATURAL HISTORY RESOURCE MANAGEMENT PLAN

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September 1987

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HAGERMAN FAUNA SITES NATIONAL NATURAL LANDMARK

Natural History
Resource Management Plan

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Approved by: Doug Carson
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September 1987

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Department of Agriculture

Approved by: [Signature] Date: 8/10/72
District Forester

Approved by: [Signature] Date: 8-22-72
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U. S. Department of the Interior
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September 1972

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Preface

The Hagerman National Natural Landmark contains hundreds of fossil sites that have produced exceptionally important paleontologic information on the Pliocene Blancan land mammal age. The Hagerman local fauna is the largest Blancan fauna in the world in terms of diversity and abundance of vertebrate fossil specimens. The fossils and their associated geologic setting have been and continue to be important sources of information on Cenozoic biostratigraphy, paleoclimatology, paleozoography, paleoecology, and evolution.

The management objectives in this plan address the above resource as well as other natural aspects of the landmark which include botanical resources, wildlife values, scenic values, and watershed values. Cultural values and recreation values are also addressed. All future activity plans that involve the Hagerman National Natural Landmark will be in accordance with the management objectives of this plan.

The primary objective of this plan is to protect the natural aspects of the Landmark from loss and destruction and to provide for professional research, site interpretation, and appropriate recreational use.

Purpose

The National Natural Landmark System is a national system of public lands that have been found to possess outstanding paleontological resources. The system is the largest in the world in terms of diversity and abundance of resources. The fossils and their associated geologic settings have been and continue to be important sources of information on geologic history, paleogeography, paleontology, and evolution.

The management objectives in this plan address the above resources as well as other natural aspects of the landmarks which include scientific resources, wildlife values, scenic values, and watershed values. Cultural values and recreation values are also addressed. All future activity plans that involve the National Natural Landmark will be in conformity with the management objectives of this plan.

The primary objective of this plan is to protect the natural aspects of the landmarks from loss and destruction and to provide for professional research, interpretation, and appropriate recreational use.

Introduction

The Hagerman Fauna Sites Natural History Resource Management Plan is intended to provide the long term management direction necessary for the proper protection and utilization of the resources within the Hagerman Fauna Sites National Natural Landmark.

This multiple resource based landmark is especially known for its paleontologic and associated geologic resource values. The Hagerman fossils and fossil localities have a highly significant scientific importance that has been recognized since the original discovery in the 1920's. Over 140 articles have been published citing this area or specific fossils from this area. Research continues to this day and is far from complete.

Research on the fossils from the Hagerman Local Fauna has to a great extent been concerned with the vertebrate fossils. Vertebrate fossils are relatively rare in the fossil record. Certain fossils found at Hagerman are even rarer. These include complete "horse skeletons," fossil bird bones, an almost complete fossil Emydid turtle, a nearly complete otter, complete peccary skeletons, and possibly the best Pliocene beaver collection in the world. The materials present are in general particularly well preserved specimens of a fragile, rare, and irreparable resource that is sensitive and vulnerable to loss and destruction.

The location of a fossil is as important as the fossil itself. Hagerman offers fairly horizontal sediments with over 550 feet of vertical exposure

Introduction

The Department of Natural History, University of Toronto, is pleased to provide the long-term management of the Department of Natural History, and to provide the long-term management of the Department of Natural History, and to provide the long-term management of the Department of Natural History.

This report is a summary of the work done by the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History.

Research on the fossil record of the Department of Natural History has been carried out with the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History.

The location of a fossil is an important factor in the study of fossils, and is intended to provide a general overview of the work done by the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History, and is intended to provide a general overview of the work done by the Department of Natural History.

and over 5 miles of outcrop. The horizontal location and relative elevations of individual specimens offer great opportunities for the study of paleoecologic and morphologic changes through time.

This assemblage is unusual in its quality, quantity, and diversity when compared to other major fossil localities of Blancan age. An extensive mollusk fauna and important paleobotanical data are also present at Hagerman. These data in conjunction with the vertebrate and geologic data have provided important information on evolutionary trends, the development of biological communities, and the interaction between organisms. This makes the site internationally significant for studies on Cenozoic biostratigraphy, paleoclimatology, paleozoography, paleoecology, and the understanding of the evolution of certain lineages.

These internationally significant scientific values and other multiple resource values of the Hagerman National Natural Landmark are being adversely impacted. Impacting agents include unauthorized grazing, private collecting, vehicle use, recreation use, farming (both directly and indirectly), right-of-way use, and other activities.

The Bureau of Land Management is responsible for the correction of and prevention of the adverse impacts that result from the above agents. The National Environment Policy Act of 1969 (NEPA 83 Stat. 852) states that "it is the continuing responsibility of the Federal Government to use all practical means ... (to) preserve important ... natural aspects of our Natural Heritage" and the Federal Land Policy and Management Act of 1976

and over 2 miles of contour. The horizontal location and relative
abundance of fish within specific areas are also important for the study
of population and migratory changes through time.

This technology is essential to the quality, quantity, and diversity of
resources in other major local fisheries of the region. An extensive
analysis of the data and important relationships have also been made at
Bogotá. These data are consistent with the scientific and geographic data
have provided important information on migratory trends, the frequency
of biological communities, and the relationship between systems. This
study has also been used by the Ministry of the Environment and the
Ministry of Agriculture, Forestry, and Fisheries, and the
Ministry of the Interior for the study of certain programs.

These environmentally sensitive areas are of great value and other wildlife
resources within the Bogota National Natural Reserve are being
actively managed. Important areas include mountainous regions, rivers
and streams, wetland areas, forested areas, and other natural
resources, and other activities.

The focus of land management is responsible for the conservation of and
protection of the natural resources that provide for the people. The
National Environment Policy Act of 1990 (Law 541) states that "it
is the continuing responsibility of the National Government to use all
possible means ... (a) protect, improve, and maintain the quality of the
National Environment and the National Land Policy and Management Act of 1990

(FLPMA 90 Stat. 2743) declares "it is the policy of the United States that ... the public lands be managed in a manner that will protect the quality of scientific ... resource(s)"

In light of the above, the Bureau of Land Management has issued Instruction Memorandum No. 84-68. Objectives of paleontological resource management as stated in the above memorandum are listed here:

1. Identify and evaluate paleontological resources.
2. Develop management plans to protect those paleontologic resources considered to be of significant scientific interest.
3. Provide for uses such as scientific collection and research, recreational/hobby collecting, and educational or interpretive activities.
4. Increase the awareness of Federal land managers and the public regarding paleontological resource management requirements and to encourage public participation in their management.
5. Promote consistency, where practical, among Federal agencies with paleontological resource management responsibilities and facilitate the efficient and effective exchange of information between Federal, State, and local governments, scientific and other private organizations concerned with the management, study, and protection of these resources.

(UNEP/WHO 1982, 1983) declares "it is the policy of the United States that ... the public lands be managed in a manner that will protect the quality of ... resources ..."

In light of the above, the Bureau of Land Management has issued a management plan for the ... On October 10, 1982, the Bureau of Land Management issued a ... in the above management plan.

1. Identify and evaluate paleontological resources.

2. Develop management plans to prevent those paleontological resources ... considered to be of significant scientific interest.

3. Provide for the study, collection, and research, ... and education of the public ...

4. Encourage the awareness of Federal land managers and the public regarding paleontological resources through reports and in various public participation in their management.

5. Provide consistency, where practical, among Federal agencies with paleontological resource management responsibilities and facilitate the ... and scientific research of paleontological resources. State, ... and local governments, scientists and other private organizations ... with the management, study, and preservation of these resources.

This plan covers all natural aspects of the Hagerman National Natural Landmark. It addresses management and control of the previously mentioned impacting agents so that the area involved may be treated in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife; and that will provide for outdoor recreation and human occupancy and use.

This plan covers all aspects of the program. It is designed to provide a comprehensive overview of the program's goals, objectives, and activities. The plan is organized into several sections, each addressing a different aspect of the program. The first section discusses the program's purpose and mission. The second section outlines the program's goals and objectives. The third section describes the program's activities and projects. The fourth section discusses the program's budget and funding. The fifth section discusses the program's evaluation and monitoring. The sixth section discusses the program's communication and public relations. The seventh section discusses the program's administrative and support services. The eighth section discusses the program's legal and regulatory requirements. The ninth section discusses the program's risk management and safety. The tenth section discusses the program's sustainability and future plans. The plan is intended to serve as a guide for the program's implementation and management. It is also intended to provide a basis for the program's evaluation and monitoring. The plan is a living document and will be updated as the program evolves.

Management Objectives

1. The primary objectives of this plan are to protect the natural and educational aspects of the landmark from loss and destruction and to provide for professional research, site interpretation, and appropriate recreational use.
2. It is an objective of this plan to have the natural aspects of the Hagerman National Landmark fully identified and evaluated so that future management decisions will be made with a full understanding of the quality of the environment including but not limited to paleontologic, recreation, watershed, wildlife and fish, botanical, natural scenic, scientific, and cultural values.
3. It is an objective of this plan to facilitate the effective exchange of information between Federal, State, and local governments, scientific and other private organizations concerned with the management, study, use, and protection of the above resources.
4. It is an objective of this plan to finance site actions as much as possible through non-federal funding and to actively search out volunteers to help at the landmark.

Management Objectives

1. The primary objective of this plan is to protect the natural and cultural resources of the National Park and its historic landmarks and to provide for recreational, scientific, and educational use.

2. It is an objective of this plan to have the natural resources of the National Park and its historic landmarks fully identified and evaluated as to their scientific, historic, and cultural value. Management decisions will be made with a full understanding of the quality of the environment including but not limited to paleontologic, geologic, historic, scientific, and cultural values.

3. It is an objective of this plan to facilitate the effective exchange of information between Federal, State, and local governments, scientific and other private organizations concerned with the management, study, use, and protection of the above resources.

4. It is an objective of this plan to insure that persons as well as residents through non-formal teaching and to actively search out resources to help in the future.

Existing Management Situation

Consideration in the development of the management actions has been given to budget, FTE (Full Time Equivalent personnel ceilings), and political constraints as well as conflicts between the various resources involved and the physical setting of the National Natural Landmark.

Other constraints include the presence of various rights-of-way, an existing road without a right-of-way, the Jarbidge Resource Area Management Plan, the Hagerman ACEC designation, the National Natural Landmark designation, and a memorandum of understanding with the State of Idaho, Department of Parks and Recreation. An Interim Management Plan and a Watershed Management Plan also cover the area involved.

Federal budget and personnel constraints have limited past and present efforts to appropriately manage the Hagerman National Landmark. They are expected to continue to limit what can be done. Alternate means of funding and maintaining needed improvements and personnel are therefore addressed in this plan.

Management actions related to surrounding lands are addressed in this plan because activities on these lands are adversely affecting the qualities of the landmark.

The various rights-of-way impacting the Hagerman National Landmark include two pump stations and their associated roads, powerlines, phone lines,

Existing Management Situation

Existing situation in the management of the management system has been given in Exhibit 1. The management system is a complex of various management levels and functions. The management system is a complex of various management levels and functions. The management system is a complex of various management levels and functions.

Other management levels include the management of various management levels and functions. The management system is a complex of various management levels and functions. The management system is a complex of various management levels and functions. The management system is a complex of various management levels and functions.

Management system and personnel management have been given in Exhibit 2. The management system is a complex of various management levels and functions. The management system is a complex of various management levels and functions. The management system is a complex of various management levels and functions.

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The various management levels include the management of various management levels and functions. The management system is a complex of various management levels and functions. The management system is a complex of various management levels and functions.

pipelines, cathodic protection stations, buildings, and other necessary appurtenances. Other roads, rights-of-way for pipelines, powerlines, and communication sites affect the scenic and natural values of the area.

The Jarbidge Resource Management Plan and Hagerman ACEC designation apply specific constraints on activities within the National Landmark Area. These include the following:

1. The paleontologic resources and their associated geologic setting will be protected from destruction and loss.
2. Professional research and collecting will be allowed.
3. The scenic, recreational, cultural, and wildlife values will be maintained.
4. Agricultural trespass including irrigation lines will be prevented.
5. Any surface disturbance allowed must be mitigated to blend with the existing topography and visual aspects of this site so as to be substantially unnoticeable. If this is not economically or practically feasible, the surface disturbance will not be allowed.
6. No surface disturbing activities will be allowed unless they are directly related to studies or research pertinent to the Paleontologic Resource and its associated geologic setting, or, unless they can be

physical, aesthetic, economic, political, and other dimensions of the environment. These factors are physical, political, and economic. The environment also affects the social and cultural values of the area.

The Institute for Management and Development Studies (IMDS) is a research organization established by the National Institute of Health (NIH). The Institute is committed to research on the health and development of the people of the United States.

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mitigated in such a way as to maximize the information gained on the Paleontologic Resource and its associated geologic setting.

7. All lands needed to protect paleontologic values will be withdrawn from all types of land disposals. (This does not exclude transfer to other federal agencies or Recreation and Public Purposes leasing.)

8. Accelerated erosion caused by water will be minimized and vegetative cover will be maintained.

9. Sediment discharge into the Snake River will be prevented.

10. No new buildings will be allowed on the site unless they are directly related to the preservation or interpretation of the site.

11. No use that causes the destruction of paleontologic specimens will be allowed.

12. Those lands necessary to insure that the paleontologic resource is maintained and managed in a secure setting will be obtained.

13. The landmark is closed to grazing use but open to cattle trailing for two weeks along the paved access road in the south end of the landmark.

alignment is such as to maintain the information passed to the

biological resources and the associated geologic setting.

7. All lands needed to protect paleontologic values will be withdrawn from

all types of land disposal. (This does not exclude transfer to other

Federal agencies or States and Public Purpose lands.)

8. Acreage needed to protect water will be minimal and vegetative

cover will be maintained.

9. Cultural resources near the Snake River will be preserved.

10. No new buildings will be allowed on the site unless they are directly

related to the preservation or interpretation of the site.

11. No use that causes the destruction of paleontologic specimens will be

allowed.

12. Where lands necessary to insure that the paleontologic resources are

maintained and managed in a secure setting will be obtained.

13. The landward is closed to grazing and other activities for

two weeks after the ground water level in the south end of the landward.

14. The area is closed to off-road vehicle activity. (The intent of this constraint is to stop uncontrolled or recreational off-road use.)
Authorized off-road travel for management and scientific purposes will be allowed.

15. The public lands within the landmark will be retained in Federal ownership unless a site specific exchange is necessary to improve area management.

16. Lands in poor ecological condition shall be improved. (This includes the elimination of grazing and the implementation of some vegetation manipulation.)

17. The area will be managed to support five mule deer.

18. The present upland game nesting and cover habitat will be maintained.

19. The two miles of the Oregon Trail (remaining ruts and trail features) will be nominated for National Register listing.

20. Interpretive markers for the Oregon Trail will be developed and installed.

14. The area is closed to all-year vehicle traffic. (The intent of this restriction is to give unrestricted access to the area.)
Unrestricted all-year travel for management and scientific purposes will be allowed.

15. The public lands within the boundary will be retained in Federal ownership unless a title transfer is necessary in order to carry out management.

16. Lands in poor ecological condition shall be improved. (This includes the elimination of grazing and the revegetation of sage vegetation.)
(revegetation.)

17. The area will be managed to support five wolf packs.

18. The present riding horse facility and camp facilities will be retained.

19. The two miles of the Oregon Trail (connecting trail and trail features) will be designated for National Register listing.

20. Interpretive exhibits for the Oregon Trail will be developed and installed.

21. The lands above the rim will be open to leaseable mineral activity except surface occupancy. The existing Landmark area will be open for exploration and development of non-energy minerals. (The exploration or development will be strictly controlled in accordance with this plan.)

22. The entire area shall be considered a utility avoidance/restricted area.

23. The area will be a full suppression area for fire with the stipulation that no mechanical equipment will be used off existing roads and trails and no fire lines will be excavated.

Designation of the Hagerman Fauna Sites as a National Natural Landmark implies a commitment to manage the area in a manner consistent with the objectives of the Natural Landmarks program. A National Park Service brochure on the Landmark program identifies the following objectives:

1. To encourage the preservation of sites illustrating the geological and ecological character of the United States.
2. To enhance the educational and scientific value of sites thus preserved.
3. To strengthen cultural appreciation of natural history.
4. To foster a greater concern in the conservation of the Nation's natural heritage.

21. The lands above the site will be open to intensive mineral activities except surface occupancy. The existing land use will be open for exploration and development in non-energy minerals. (The exploration of development will be actively encouraged to accordance with this plan.)

22. The water area shall be considered a highly developed water area.

23. The area will be a full development area for the water area. That no mechanical equipment will be used for drilling water and wells and no living lines will be constructed.

Designation of the Rogers Park Area as a National Natural Landmark implies a commitment to manage the area as a natural landmark with the objectives of the National Landmark program. A National Park Service brochure on the National Landmark program identifies the following objectives:

1. To encourage the preservation of areas illustrating the geological and biological character of the United States.
2. To enhance the educational and scientific value of these areas preserved.
3. To strengthen national appreciation of natural history.
4. To foster a greater concern in the conservation of the Nation's natural heritage.

A state land section exists wholly within the designated Hagerman National Natural Landmark. This section comprises 492.87 acres and includes the original and most significant large mammal fossil locality within the area of concern. A cooperative management agreement with the Idaho State Department of Parks and Recreation (Agreement No. ID910-MU5-234) was made on April 22, 1985. The constraints of this agreement are listed below:

1. The Idaho Department of Parks and Recreation shall maintain jurisdiction over grazing use except that all activities on the state parcel will be consistent with the remainder of the Hagerman Fossil Bed Area.
2. All activities relating to mining, wildlife, and land use authorizations will be managed by the Department of Parks and Recreation.
3. Management of trespass will be by the Department of Parks and Recreation except as related to ORV's, antiquities, and paleontological values.
4. Patrolling power and signing funding will be provided within capacity.
5. The Idaho State Department of Parks and Recreation will retain jurisdiction over all activities that are not covered by the agreement.
6. The Bureau of Land Management will be responsible for the management of all ORV use and all fire prevention, pre-suppression, and suppression activities.

A state land section within the Department of Lands and Natural Resources
between January 1, 1961 and December 31, 1961, shall include the
original and any subsequent large natural land parcels within the state
of Colorado. A cooperative management agreement with the state
Department of Parks and Recreation (agreement No. 1961-1962-126) was made on
April 21, 1961. The contents of this agreement are listed below:

1. The state Department of Parks and Recreation shall maintain jurisdiction
over grazing and ensure that all activities on the state lands will be
conducted with the interests of the Department of Parks and Recreation.
2. All activities relating to mining, wildlife, and land use restrictions
will be managed by the Department of Parks and Recreation.
3. Management of resources will be by the Department of Parks and Recreation
except as related to GNV's, agriculture, and paleontological values.
4. Patroling power and signing landing will be provided within capacity.
5. The state Department of Parks and Recreation will retain
jurisdiction over all activities that are not covered by the agreement.
6. The Bureau of Land Management will be responsible for the management of
all GNV's and all fire prevention, fire suppression, and suppression
activities.

7. The Bureau of Land Management will prevent trespass activities that involve unauthorized ORV use, or archaeological or paleontological value abuse.

8. The Bureau of Land Management will manage the values identified in a manner consistent and compatible with the remainder of the Hagerman Fossil Bed area.

9. The Bureau of Land Management will implement the following management practices immediately:

(a) Close to ORV use except on certain designated roads.

(b) Initiate action to prevent gully washing by Bell Rapids "runoff" water within authorities.

(c) Disseminate educational information to users of the tract.

(d) Monitor extent and kinds of use being made on said tract.

(e) Conduct limited patrolling to prevent damage or vandalism to the resources.

10. Correlate management activities with all interested user groups, i.e., Idaho State Museum of Natural History, ORV groups, and the Bell Rapids Irrigation District.

7. The Bureau of Land Management will provide technical assistance and information to the State of Alaska, as requested, for the purpose of carrying out the provisions of the Act.

8. The Bureau of Land Management will manage the various lands in a manner consistent and compatible with the purposes of the Act.

9. The Bureau of Land Management will implement the following management plan:

- (a) Classify the lands according to their designated uses.
- (b) Prepare a plan for the management of the lands.
- (c) Determine the appropriate management plan for each of the lands.
- (d) Establish a system of land use planning.
- (e) Conduct research and planning to develop a management plan for the lands.

10. The Bureau of Land Management will cooperate with all interested parties, including the State of Alaska, the Department of the Interior, and the Department of Agriculture, in the management of the lands.

The Hagerman Fauna Sites National Natural Landmark Interim Management/Damage Abatement Plan was approved by the District Manager on November 4, 1985. The approved actions of the Interim plan include the following:

| Action | Cost | Completion Date |
|-----------------------------------------------------------------------------------------------------------------|----------------|-----------------------------|
| a) Install & maintain closure signs. | 1 WM & \$2,000 | Annually from April 1, 1986 |
| b) Install & maintain fence along boundary. | | By September 1, 1986 |
| c) Hire a seasonal ORV ranger to spend season patrolling Landmark & adjacent areas. | 6 WM | Annually from April 1, 1986 |
| d) Enter into agreement with Twin Falls County Sheriff to have their officers patrol Landmark & adjacent areas. | \$5,000 | Annually from April 1, 1986 |
| e) Print flier for ORV users of the Landmark vicinity. | | By April 1, 1986 |

Short-Term Mitigation (FY-85 and FY-86) -

| Action | Responsible Party | | Completion Date | Cost |
|------------------------------------------------------------------------------------|-------------------|------|-----------------------------------------------|----------------------|
| | BLM | User | | |
| a) Corrective measures to stop canal seepage. | | X | 4/1/86 or prior to irrigation season in 1986. | ? |
| b) Stabilize disturbed soils at major slump site and in all drainage where needed. | | X | 4/1/86 | \$6,000.00 |
| c) Corrective measures to control surface runoff on roads to pump stations. | | X | 12/31/86 | |
| d) Stop flushing pipelines into canyon. | | X | Immediately | |
| e) Monitor soil movement at major slump. | X | | FY-85 & FY-86 | \$8,000.00 (2 WM/yr) |
| f) Monitor water flow at springs & in drainages where needed. | X | | 4/1/86 | (included in e.) |

The Department of the Interior, Bureau of Reclamation, has approved the following plan for the construction of the proposed project, subject to the following conditions:

| Section | Order | Construction Date |
|------------------------------------------|-------|-----------------------------|
| a) Section I & maintenance of the same | 1st | Annually from April 1, 1955 |
| b) Section II & maintenance of the same | 2nd | By September 1, 1955 |
| c) Section III & maintenance of the same | 3rd | Annually from April 1, 1955 |
| d) Section IV & maintenance of the same | 4th | Annually from April 1, 1955 |
| e) Section V & maintenance of the same | 5th | Annually from April 1, 1955 |

Order of Construction (1955-56 and 1956-57) -

| Section | Order | Construction Date | Remarks |
|------------------------------------------|-------|-----------------------------|--------------------------|
| a) Section I & maintenance of the same | 1st | Annually from April 1, 1955 | Construction of the same |
| b) Section II & maintenance of the same | 2nd | By September 1, 1955 | Construction of the same |
| c) Section III & maintenance of the same | 3rd | Annually from April 1, 1955 | Construction of the same |
| d) Section IV & maintenance of the same | 4th | Annually from April 1, 1955 | Construction of the same |
| e) Section V & maintenance of the same | 5th | Annually from April 1, 1955 | Construction of the same |

| Action | Responsible Party | | Completion Date | Cost |
|----------------------------------------------------------------|-------------------|------|-----------------|-------------|
| | BLM | User | | |
| g) Install sediment collecting dams in drainages were needed. | X | | 4/1/86 | \$11,000.00 |
| h) Establish collection ponds on canyon rim where appropriate. | | X | 4/1/86 | \$16,100.00 |
| i) Post warning signs near major soil slump. | X | | 4/1/86 | \$500.00 |

Long-Term Mitigation (FY-87 on) -

| Action | Responsibility/Costs |
|---------------------------------------------------------------------------------------|----------------------|
| a) Monitor area annually. | BLM (\$22,500/yr) |
| b) Pursue possible land exchange or acquisition to facilitate management of the area. | BLM - User \$? |

Appropriate action should be taken by the National Park Service, the BLM, and the State of Idaho to register the designated area. (This refers to the site being designated but not registered as a National Natural Landmark.)

The Hagerman Fauna Sites Watershed Activity Plan was written in March 1985 and approved on April 10, 1985. The objectives of the plan are as follows:

1. Limit as much as possible overland flow within the fossil area.
2. Limit accelerated erosion caused by overland flow and groundwater buildup which has formed a perched aquifer.
3. Stabilize areas previously disturbed by erosion.
4. Improve the overall appearance of the area.

| Action | Responsible Party | W.M. User | Consultation Date | Cost |
|------------------------------------------------------------------|-------------------|-----------|-------------------|-------------|
| | | | | |
| e) Install sediment collecting bins in drainage area noted. | | X | 4/1/88 | \$11,000.00 |
| d) Established collection ponds on campus rim where appropriate. | | X | 4/1/88 | \$10,100.00 |
| c) Post warning signs near major road along | | X | 4/1/88 | \$200.00 |

Long-Term Mitigation (75-85 yrs) -

| Action | Responsible Party/Cost |
|----------------------------------------------------------------------------------------|------------------------|
| | |
| a) Monitor area annually. | NM (\$25,000/yr) |
| b) Potable possible food exchange or acquisition to facilitate management of the area. | NM - User \$1 |

Appropriate action should be taken by the National Park Service, the NM, and the State of Idaho as required by the designated area. (This refers to the area being designated but not registered as a National Natural Monument.)

The National Park Service Watershed Activity Plan was written in March 1982 and approved on April 10, 1982. The objectives of the plan are as follows:

1. Limit as much as possible overland flow within the forest area.
2. Limit accelerated erosion caused by overland flow and streambank failure which has formed a rutted gulch.
3. Establish areas previously disturbed by erosion.
4. Improve the overall appearance of the area.

5. Prevent sediments from reaching the Snake River.

Short-Term Mitigation (FY-85 and FY-86) -

| Action | Responsible Party | | Completion Date | Cost |
|--------------------------------------------------------------------------------------------------|-------------------|------|-----------------------------------------------|-------------------------|
| | BLM | User | | |
| a) Corrective measures to stop canal seepage. | | X | 4/1/85 or prior to irrigation season in 1985. | |
| b) Stabilize disturbed soils at major slump site and in all drainages where needed. | X | X | 4/1/86 | |
| c) Corrective measures to control surface runoff on roads to pump stations. | | X | 12/31/86 | |
| d) Stop flushing pipelines into canyon. | | X | Immediately | |
| e) Monitor soil movement at major slump. | X | | FY-85 & FY-86 | \$8,000.00 (2 WM/yr) |
| f) Monitor water flow at springs & in drainages where needed. Install small dams & water meters. | X | | 4/1/86 | |
| g) Install sediment collecting dams in drainages where needed. | X | | 4/1/86 | |
| h) Establish collection ponds on canyon rim where appropriate. | X | X | 4/1/86 | |
| i) Post warning signs near major soil slump. | X | | 4/1/86 | |

Long-Term Mitigation (FY-87 on) -

| Action | Responsibility/Costs |
|-------------------------------------------------------------------------|----------------------|
| a) Monitor area annually. | BLM (\$8,000/yr) |
| b) Pursue possible land exchanges to facilitate management of the area. | BLM - User \$? |

2. Present conditions have resulted in the State River.

State River Migration (FY-61 and FY-62)

| Case | Completion Date | Responsibility | | Action |
|-------------------------|-----------------------------------------------------|----------------|-------|--------------------------------------------------------------------------------------------------|
| | | State | FY-61 | |
| | 6/1/61 or later to irrigation season in 1962. | X | | a) Construct measures to stop water leakage. |
| | 6/1/61 | X | X | b) Rebuild abandoned wells as water flows and in all directions where needed. |
| | 12/31/62 | X | | c) Construct measures to control surface runoff on roads in pump stations. |
| | immediately | X | | d) Seal existing pipelines into creeks. |
| 15,000 cu (2 1/2 mi) | FY-62 & FY-63 | | X | e) Install well around at water pump. |
| | 4/1/62 | | X | f) Install water flow at pump & in drainage where needed. Install well near water pump. |
| | 4/1/62 | | X | g) Install sediment collecting dam in drainage where needed. |
| | 4/1/62 | X | X | h) Construct collection ponds on creeks at three appropriate places. |
| | 4/1/62 | | X | i) Test existing signs near water pump. |

State River Migration (FY-63 and FY-64)

| Responsibility | | Action |
|----------------|-------|---------------------------------------------------------------------|
| State | FY-63 | a) Install water pump. |
| State | FY-64 | b) Rebuild possible land subsidence in vicinity of pump station. |

Possible Management Measures

All the objectives of this plan have been written to be consistent with the following:

1. Federal law including NEPA and FLPMA.
2. Bureau policy as outlined in Instruction Memorandum 84-68.
3. The Jarbidge Resource Management Plan.
4. The objectives of the National Natural Landmark program.
5. The Hagerman ACEC designation.
6. The Hagerman Interim Management Plan and Watershed Management Plan.
7. The Memorandum of Understanding with the State Department of Parks and Recreation.
8. Recommendations by the Idaho State Paleontologist and other vertebrate paleontologists.

The proposed management actions in this document are written to be consistent with the same. Decisions already made in previous documents will be carried forward.

All the objectives of this plan have been written in the following:

Following:

1. Federal law including FICA and FUTA.
2. Federal policy as outlined in Executive Order 9835.
3. The Federal Government Management Plan.
4. The objectives of the National Personnel Management Program.
5. The Federal Personnel Management Plan.
6. The Federal Personnel Management Plan and National Personnel Management Plan.
7. The Department of Labor's plan for the Department of Labor and the Department of Labor.
8. Recommendations for the Federal Personnel Management and other agencies.
9. Recommendations for the Federal Personnel Management and other agencies.
10. Recommendations for the Federal Personnel Management and other agencies.
11. Recommendations for the Federal Personnel Management and other agencies.
12. Recommendations for the Federal Personnel Management and other agencies.
13. Recommendations for the Federal Personnel Management and other agencies.
14. Recommendations for the Federal Personnel Management and other agencies.
15. Recommendations for the Federal Personnel Management and other agencies.
16. Recommendations for the Federal Personnel Management and other agencies.
17. Recommendations for the Federal Personnel Management and other agencies.
18. Recommendations for the Federal Personnel Management and other agencies.
19. Recommendations for the Federal Personnel Management and other agencies.
20. Recommendations for the Federal Personnel Management and other agencies.

Many management measures can be taken to meet the objectives of this plan. Those that are proposed will be in accordance with the constraints listed under the Existing Management Situation.

The following possible physical and administrative measures have been adapted from the Safford District Rock Art CRMP:

I. Physical Protection Measures. These measures include those applied directly to the property, such as stabilization and those applied indirectly to the general area, such as signing, fencing, or patrolling.

A. Indirect Methods. These methods refer to physical protection measures that do not involve modification of the resource:

1. Signing. Under conditions of active or potential vandalism, natural features should be adequately signed, identifying the protection afforded by law. Signs should be placed so as to not be obtrusive.

2. Fencing/Gating. Fences, barriers, railings, and gates of various materials can be used alone or in combination to restrict access. The selection of designs and materials must avoid unwarranted intrusion on the visual qualities of the property. Maintenance and safety requirements must also be considered in the design.

Many management resources can be found to meet the objectives of this plan. These that are proposed will be in accordance with the management listed under the related management situation.

The following general physical and administrative resources have been reported from the related physical resources and their:

I. Physical Resources. These resources include those applied directly to the property, such as construction and those applied indirectly to the general area, such as lighting, heating, or parking.

A. Physical Resources. These methods refer to physical resources. Examples that do not involve modification of the resources:

I. Signage. Other conditions of nature or potential conditions, natural features should be adequately signed, identifying the protection afforded by law. Signs should be placed so as to not be obscured.

2. Facilities. Roads, parking, walking, and other of various nature can be used signs or in combination to assist drivers. The location of signs and materials must avoid unwanted attention on the visual quality of the property. Pedestrians and safety requirements must also be considered in the design.

3. Patrol/Surveillance. Patrol and surveillance are determined by and scheduled according to the nature of the natural resource being impacted and the degree of the threat. Irregularly scheduled patrols and weekend patrols are the best means of deterring amateur collecting, vandalism, violation of the ORV closure, and other unauthorized uses. Besides staking out a site, surveillance can be accomplished through detection systems; however, the installation of surveillance equipment should not impair or compromise the integrity of the natural resources. These systems should have direct response capability with local, county, state, or federal enforcement authorities; response time will affect the effectiveness of these systems.

4. Erosion Control (off-site). Paleontologic resources are frequently threatened by various types of erosion. Flooding, seepage, major runoff areas, movement of soils by wind action, and other potential erosion problems can be monitored and controlled. Erosion control performed off-site can generally be accomplished at lower cost, with less disturbance to the resource, than with on-site erosion control. Recontouring to improve drainage, construction of catch basins, diversion or check dams, canal linings, windbreaks, and other protection measures can reduce erosion.

1. General Characteristics. General and particular characteristics are distinguished by and related according to the nature of the natural resources being targeted and the degree of the threat. In particular, included patterns and selected patterns are the best means of determining relative importance, vulnerability, restoration of the system, and other environmental needs. Further study and a clear understanding can be accomplished through discussion and analysis; however, the installation of environmental systems should not depend on comparison the integrity of the natural resources. These systems should have direct response capability with local, county, state, or federal government authorities; response time will affect the effectiveness of these systems.

2. General General (Self-Check). Radiologic resources are frequently threatened by various types of events. Accidents, sabotage, or other events, movement of waste by wind action, and other potential events problems can be avoided and controlled. Further control related to self-check was generally be accomplished at local level, with less dependence on the response, with other events control. Radiologic resources are further damaged, contamination of water, food, livestock or other food, land, water, air, and other potential resources and related systems.

5. Fire Control. An active fire protection program to protect natural resources should include pre-suppression, suppression, and post-suppression activities. Periodic inspections may be undertaken to determine potential fire hazards. Pre-suppression measures may include fire retardant treatments, reduction of fuel by means other than grazing, construction of fuel breaks, and site-specific fire action plans. When implementing fire control measures, care should be taken to preserve the natural resource in its visual and environmental setting. Post-suppression analysis should consider physical protection measures needed to restore the setting and rehabilitate the natural resource damaged by fire and suppression activities.
6. Nonpoint Source Pollution Control (on-site). Paleontologic and other natural resources are damaged by uncontrolled water flow. Springs, seeps, overland flow, and landslides occur. Erosion and waste water control need to be handled in such a way as to minimize the direct and indirect impacts on the natural resources and the public perception of the resources. BLM Manual Sections 9182 and 9188 expand on the various physical protection measures available for controlling pollution and erosion.
7. Interpretive Signing. Interpretive signs are a positive aspect of protection since they educate the public and, hopefully, foster a sense of appreciation for, and a sense of responsibility towards, the resource and it can be combined

6. Physical Protection Program. An active physical protection program is essential to the security of a facility. The program should include the following elements: (a) physical barriers, (b) access control, (c) surveillance, (d) personnel screening, (e) emergency response, and (f) communication. The program should be designed to prevent unauthorized access to the facility and to detect and respond to threats. The program should be based on a risk assessment of the facility and should be updated as the risk changes. The program should be implemented in a way that is consistent with the needs of the facility and the requirements of the law. The program should be evaluated regularly to determine its effectiveness and to make improvements as needed.

7. Physical Protection Program. This section describes the physical protection program for the facility. The program is designed to prevent unauthorized access to the facility and to detect and respond to threats. The program is based on a risk assessment of the facility and is updated as the risk changes. The program is implemented in a way that is consistent with the needs of the facility and the requirements of the law. The program is evaluated regularly to determine its effectiveness and to make improvements as needed.

8. Physical Protection Program. This section describes the physical protection program for the facility. The program is designed to prevent unauthorized access to the facility and to detect and respond to threats. The program is based on a risk assessment of the facility and is updated as the risk changes. The program is implemented in a way that is consistent with the needs of the facility and the requirements of the law. The program is evaluated regularly to determine its effectiveness and to make improvements as needed.

with an explanation of protective measures taken, if appropriate. This may be better received in some cases than the warning signs currently used.

8. Monitoring. Regular monitoring of the area will be the most valuable source of trend information to evaluate site condition and the effectiveness of the various management activities. Systematic inspection of individual sites will provide the data necessary to update specific management actions and provide the flexibility necessary for responsible long-term management. In addition, site inspection will identify unanticipated sources of deterioration so corrective action can be taken before the damage is extensive. Monitoring will also reduce the risk of implementing redundant or unnecessary actions.

9. Detailed Recording. The intent of detailed recording is to document those aspects of paleontologic or cultural site which contribute to scientific or historical studies without substantially modifying the resource. This non-destructive technique may include the use of detailed mapping using surveying equipment, photogrammetry, aerial and standard photography, use of electronic equipment such as magnetometers, and narrative descriptions.

with an explanation of prospective objectives, it
agrees. This may be better placed in some cases than
the current aims currently used.

2. Monitoring. Regular monitoring of the area will be the most
valuable source of trend information to evaluate the condition
and the effectiveness of the various management activities.
Regular inspection of individual sites will provide the data
necessary to update specific management actions and provide the
flexibility necessary for responsive management. In
addition, site inspection will identify management actions
of demonstrated or potential value and be taken before the
damage is excessive. Monitoring will also reduce the risk of
implementing reduction of unnecessary actions.

3. General Monitoring. The intent of general monitoring is to
document those aspects of paleontology or natural area which
contribute to scientific or historical studies within
the area. This is a descriptive
technique not unlike the use of detailed mapping using
aerial photography, photography, aerial and ground
photography, use of electronic equipment such as magnetometer
and magnetic mapping.

B. Direct Methods. These methods refer to physical protection measures which modify the resource:

1. Stabilization. Structural and material stabilization techniques introduce chemical, mechanical, or structural elements to retard the deterioration of a variety of paleontologic resources. For example, chemical measures include the application of glues to protect fragile bones; structural measures include the building of shelters. Detailed specifications for stabilization should include: individual fieldwork tasks required, specific locations requiring stabilization; methods and materials to be used; types of expertise required. Maps, scale drawings, and photos should be used liberally to illustrate work requirements. All stabilization work must be accurately and adequately documented in order to provide a clear "before and after" record of the property.
2. Erosion Control (on-site). When erosion control is necessary within the physical boundaries of a paleontologic property, the effects of the control measures on resource values should be carefully limited. Standard engineering construction practices must be modified to allow the proper recovery and recording of information which would be disturbed by the implementation of the erosion control measures. Examples of on-site erosion control measures include recontouring the site

2. Physical Models. These models refer to physical models.

systems which satisfy the conditions:

1. Stabilization. Mechanical and electrical stabilization.

mechanical stabilization, electrical, mechanical, or electrical.

elements to obtain the stabilization of a system of

physiological systems. For example, electrical systems

include the stabilization of given to prevent fatigue, heart,

electrical systems include the building of systems. Details

specifically for stabilization should include: (a) (b) (c)

the system is stabilized, electrical systems, electrical

stabilization; methods and materials to be used; (d) (e) (f)

electrical systems. These, which are given, and should be

used liberally in literature with requirements. All

stabilization work must be carefully and adequately presented

in order to provide a clear "before and after" record of the

process.

3. Physical Control (for study). When control is necessary

within the physical boundaries of a physiological property, the

effect of the control measure on the system should be

carefully studied. Electrical engineering experimental practices

must be modified to allow the proper recovery and recording of

information which would be disturbed by the introduction of

the various control measures. Examples of control systems

control systems include recording the data

surface to promote better drainage, and backfilling eroded gullies and illegally excavated areas.

3. Fire Control. Effective on-site fire control is limited primarily to preventive measures. For example, wooden structures can be treated with fire retardant; trash and litter should be reduced; and in areas of public use, restrictions should be placed on campfires. Fire arrest equipment could be provided inside structures for visitor safety and protection of the resource. Fire suppression handlines and bulldozer lines should not be allowed.
4. Relocation. Some paleontologic and cultural resources can be relocated with minimal impact to their inherent value. This alternative is limited to specific paleontologic specimens or cultural artifacts. Relocation requires professional knowledge and the use of proper recovery techniques. Efforts at relocation need to be properly planned with full consideration of alternative methods of protection. Relocation or salvage can be an expensive process.
5. Paleontologic and Archaeological Data Recovery. Paleontologic and archaeologic recovery includes those techniques that maximize controlled collection of materials and analysis of data. Excavation will be allowed for scientific research, site interpretive needs, or those salvage operations necessary to protect the scientific information contained at the site.

include in program better design, and better fitting
uniform and slightly expanded areas.

3. Visual Display. Efficiencies in the visual display are limited

primarily to presentive measures. For example, window
arrangements can be treated with the computer; items and their
amounts be reduced; and in terms of public use, presentation
should be placed on computer. The amount of information should be
provided through structure for visual display and organization of
the material. This organization is limited and different from
what is not allowed.

4. Information. Some information and related resources can be

related with minimal impact to their relative value. This
information is limited to available psychological resources or
current resources. Information requires fundamental knowledge
and the use of present resources resources. Efforts at
information must be properly placed with full consideration
of alternative methods of presentation. Information as a whole
can be an essential resource.

5. Information and Psychological Data Analysis. Psychological

and psychological resources include those techniques that
enable successful collection of materials and analysis of
data. Information will be allowed for scientific research, this
information needs, or those which are necessary to
protect the scientific information contained at the site.

Appropriate data recovery techniques are based on a formal research design carried out by qualified, trained specialists. Resulting collections and records should be curated at a qualified institution.

II. Administration Protection Measures. The following is a list of possible administrative protection measures. Included in parentheses after some measures are the appropriate regulations and/or Manual Sections that provide directions for implementation.

- A. Withdrawal (43 CFR 2300-2370; Manual Section 2321.6). Protective withdrawal of lands means withholding an area from settlement, sale location, or entry under the general land laws and mining laws. Withdrawals usually do not cover discretionary actions such as mineral leasing laws, Recreation and Public Purposes Act, and State Selection. Administrative withdrawals can transfer jurisdiction to other federal agencies.
- B. Closure to Public Access and Off-Road Vehicles (43 CFR 8364 and 8340). Areas may be temporarily closed to public use and travel to preserve areas with cultural or historic values or to protect scientific studies. Public lands may also be designated as open, limited, or closed to the use of off-road vehicles.
- C. Special Designations (36 CFR 60 and 65). Individual cultural properties or districts may be nominated to and listed on the National Register of Historic Places to recognize and reinforce

Approximate data necessary to determine the value of a forest
research design cannot be provided, but the following are
possible objectives and results should be expected as a
possible outcome.

II. Administrative Protection Measures. The following is a list of
possible administrative protection measures. The list is presented
after some measures are the appropriate regulations which should
be taken that provide protection for the environment.

A. Wilderness (43 CFR 1300-1370; Manual Section 1301.4). Wilderness
withdrawal of lands means withdrawing an area from settlement, sale,
location, or entry under the General Land Law and other laws.
Wilderness usually is not covered by administrative actions such as
mineral leasing laws, National Forest and Public Rangeland Act, and State
Reclamation. Administrative withdrawal can transfer jurisdiction to
other Federal agencies.

B. Classified to Public Access and Off-Road Vehicles (43 CFR 1300 and
1301). Areas may be temporarily closed to public use and access to
provide areas with cultural or historic values or to protect
scientific studies. Public lands may also be designated as open,
closed, or closed to the use of off-road vehicles.

C. Special Designation (43 CFR 1300 and 1301). Individual cultural
properties or districts may be designated as such listed on the
National Register of Historic Places or recognized and retained

their special management status. (Listed or eligible properties are covered under 36 CFR 800). Limited protection through national recognition is also afforded by listing a property as a National Historic Landmark. Designation of Areas of Critical Environmental Concern (ACEC) may also be used to establish special management of natural resources.

- D. Land Acquisition (43 CFR 2200). State-owned and privately-owned portions of federally managed areas or adjacent state or private lands may be acquired through exchange, purchase, or deed in order to maintain site integrity or to provide buffer zones.
- E. Recreation and Public Purposes Act (43 CFR 2740). This Act allows transfer of land to state or local government agencies or other entities (such as historical societies, conservation groups). Land is transferred under a conditional lease or patent.
- F. Easement (Manual Section 2130). Easements are authorizations for non-possessory, non-exclusive use of lands. BLM may acquire an easement to ensure administrative access to a property (such as for patrolling) or to install physical protection measures (such as fences or roads) on non-federal lands.
- G. Public Information and Education (See BLM Manual Section 1120). Efforts to inform and educate the public about local natural resource protection measures may help decrease vandalism and ensure compliance with use restrictions.

shall operate as a separate entity, limited or eligible properties
may be used subject to the EIR. Listed properties through
national recognition are also eligible for listing a property as a
National Historic Landmark. Recognition of areas of critical
historical significance (ACHS) may also be used to establish a
designation of national significance.

2. Local Recognition (25 CFR 150). State-owned and privately-owned
properties or interests owned or adjacent state or private
lands may be acquired through exchange, purchase, or lease in order
to maintain site integrity or to provide better access.

3. Protection and Historic Preservation Act (25 CFR 150). This Act allows
transfer of land to state or local government agencies or other
entities (such as historical societies, conservation groups, etc.)
to preserve under a constitutional lease or patent.

4. Transfer (25 CFR 150). Agencies are authorized for
the purchase, lease, or otherwise use of lands. It may acquire an
interest in lands, including interests in a property (such as the
possibility of an easement) or to transfer physical resources (such as
land or water) to non-federal lands.

5. Public Information and Education (25 CFR 150).
Efforts to inform and educate the public about local and
transfer properties are encouraged and help develop a sense of
ownership with the community.

III. Specific Management Actions

This section describes the selected management actions and their overall priority. The selected actions are separated into physical and administrative actions the physical actions include those that involve on-the-ground actions which protect the resources through either direct or indirect means. The administrative actions involve management decisions that are designed to ensure that the natural resources and other values of the Hagerman National Natural Landmark are treated with due respect and maintained in a secure setting. The priorities are assigned their importance in light of the overall objectives of this plan. Considering budget, personnel ceilings, and other constraints the highest priority actions may not be the first to be started or finished. These actions include those that involve high one-time costs and those that cannot be accomplished in small steps.

A. Physical Actions

1. Irrigation canals on the lands above the Hagerman National Natural Landmark will be lined so as to prevent any future leakage.

Rationale

The greatest damage to the Natural Resources of the Hagerman National Natural Landmark has occurred as a result of irrigation canal leakage. Severe slumpage problems, springs,

This section describes the selected management actions and their overall priority. The selected actions are separated into physical and administrative actions and the physical actions include those that involve on-the-ground actions which protect the resources through either direct or indirect means. The administrative actions involve management decisions that are designed to ensure that the natural resources and other values of the Egyptian Wetland National Landscape are protected with due respect and maintained in a secure setting. The physical and administrative actions are assigned their importance in light of the overall objectives of this plan. Collaborating bodies, personnel, techniques, and other administrative actions are assigned their importance and are the first to be started or initiated. These actions include those that involve high sea-level coastal and those that cannot be accomplished as well as:

A. Physical Actions

1. Irrigation canals on the lands above the Egyptian National Wetland Landscape will be fixed so as to prevent any future leakage.

B. Administrative

The present damage to the National Landscape of the Egyptian National Wetland Landscape has occurred as a result of irrigation canal leakage. Several drainage problems, including:

seeps, associated erosion and instability, loss of fossil specimens and paleontologic information, and sediment pollution in the Snake River are continuing to occur because of canal leakage. Preventing this canal leakage is the only way to stop this damage from continuing.

2. Build and maintain water flow and sediment control dams out of rock or caliche in the drainages that carry sediment to the Snake River. Specific locations within the drainages will be determined by the characteristics of the drainage and on-site analysis.

Rationale

Uncontrolled water flow in the Hagerman drainages is eroding away the banks of the drainages, cutting the toe of unstable slopes, washing out sections of road, causing increased down-cutting, building up deltas within the Snake River with sediment, and blocking the intakes to irrigation pumps.

Correction of this damage is essential for protection of the watershed and other natural values of the Landmark. The use of rock and caliche will help minimize disturbance to the natural scenic aspects of this site and will keep costs down as the material is readily available on site. This action will help eliminate the need to dredge the river near the pump intakes.

3. Willows and other native trees will be planted along the Snake River in Section 21.

Rationale

This is a multiple resource based decision. The area involved is used for picnicking and for fishing access. It is in full view of private homes across the river and is presently not very scenic. This action will improve the scenic, recreational, and wildlife values of the area and is not detrimental to other natural aspects of the Landmark. This action is in response to a public demand. The costs associated are insignificant as the trees will be donated and the work will be performed with volunteer labor. This action will improve the ecological condition of the area involved.

4. Catchment ponds with appropriate lead in ditches and outlets will be built in Section 20, in Section 17, and in other specific locations determined by on-site analysis.

Rationale

Until such time as the lands immediately upslope of these areas are no longer farmed and irrigation lines are removed, damage from overland water flow will continue. The acquisition of the lands necessary to protect the Landmark is not expected to occur in the immediate future. This action is necessary to

3. Willows and other woody trees will be planted along the banks
where the dam is located.

Recreation

This is a multiple resource based decision. The area involved
is used for fishing and for fishing access. It is in fact
one of the best places along the river and is presently not
very scenic. This action will improve the scenic
recreational, and wildlife values of the area and its use
for fishing and other recreational purposes of the Park. This
action is in response to a public demand. The scenic area
will be improved as the trees will be planted and the soil
will be protected with mulch and labor. This action will
improve the ecological condition of the area involved.

4. Damages to the riparian area in the area and vicinity
will be made in Section 10, in Section 11, and in other
places where the dam is located.

Recreation

Willows and other trees will be planted along the banks
and no longer damaged and irrigation lines are removed, damage
to the riparian area will be repaired. The riparian area of the
dam is necessary to protect the dam and is not expected to
be in the riparian area. This action is necessary to

give temporary protection to the Landmark until acquisition can occur. This action implements item (h) of the approved watershed activity plan.

5. Interpretive signs using rock supports will be developed and placed at the entrances to the Landmark and at the "Horse" quarry.

Rationale

Damage to this landmark from off-road driving, motorcycle use in closed areas, garbage dumping, and other impacting agents is considered to be directly related to users lack of knowledge about the significance of the resource values in the Landmark. This action is considered to be the minimum effort necessary to control these problems and is based on previous funding levels and the National Landmark objectives.

6. Recontour and seed ORV trails in Yahoo Gulch.

Rationale

Visual scars left from ORV use in the Yahoo Gulch area are a significant impact on the scenic beauty of the National Landmark. Recontouring and seeding with native species will eliminate this scar and stop the growth of exotic species which are presently infesting abandoned ORV trails.

Five temporary protection in the islands and 12 construction has
been. This entire landscape (see 10) of the landscape
watered activity plan.

5. Information along with support will be developed and
placed at the entrance to the landscape and at the "Banks"
country.

Reference

Because in this landscape there are many different, numerous and
in almost every, various designs, and other important aspects in
considered to be directly related to the lack of knowledge
about the significance of the resources within the landscape.
This action is considered to be the minimum effort necessary to
control these problems and is based on previous working levels
and the National Landmark objectives.

6. Research and study (see 10) in the landscape.

Reference

Various points (see 10) are in the landscape and are a
significant aspect in the landscape of the National
Landmark. Researching and working with active agencies will
establish this area and also the growth of such agencies which
are generally landscape-oriented but not.

7. A self-contained trailer suitable for housing three people will be placed within the Landmark for the use of bureau or volunteer employees until such time as a permanent residence can be built.

Rationale

On-site management during the spring, summer, and fall seasons is necessary as a visible presence will deter damaging or other unauthorized uses. Many of the recreational uses of the area occur after normal working hours and on weekends. Personnel living on site will be able to monitor this use. Establishing a residence on site as a duty station will save substantial travel costs including per diem and vehicle mileage.

B. Administrative Actions

1. An employee will be acquired to work on site at the Hagerman National Natural Landmark.

Rationale

The negative impacts to the National Landmark from ORV use, other recreational uses, and overland water flow can be significantly reduced by on-site management. Substantial vehicle mileage costs, lost travel time, and per diem costs can be saved with on-site management. Activities occurring after

3. A self-contained trailer outside the building shall be used by the staff within the building for the storage of equipment. Employees must not use it as a permanent residence or for other purposes.

Section 4

On-site management during the spring, summer, and fall seasons is necessary as a vehicle company will have during or after maintenance work. Many of the maintenance work of the area about other special working points and on weekends. Employees trying to also will be able to monitor this work. Establishing a schedule on site as a duty station will have substantial removal costs including the area and vehicle mileage.

Section 5

1. An employee will be assigned to work on site at the National Natural Laboratory.

Section 6

The employee assigned to the National Natural Laboratory will be able to monitor the area, and control water flow can be effectively reduced by on-site management. Substantial vehicle mileage costs, fuel, travel time, and per diem costs can be saved with on-site management. Activities occurring after

normal working hours can be monitored and negative impacts can be controlled by a visible presence at the Landmark. Better local contacts can be made and maintained with people who may wish to volunteer their services.

2. A trailer will be acquired for the use of BLM employees and volunteers who will be stationed or working on-site.

Rationale

This will save per diem costs and will allow for after-hours monitoring of activities on site. It is an integral part of having the on-site management necessary to implement the main objective. Should a permanent building be built in the future, the trailer can be used to manage other areas.

3. Acquisition of the state section and the lands necessary to establish a secure setting for the Landmark will be actively pursued.

Rationale

This action is considered to be critical to the long-term protection of the natural values within the Landmark. Severe damage is continuing to occur because of overland water flow from the farm lands next to the Landmark. The potential for continued overland flow problems related to the farming

practices, the slope of the terrain, and the presence of irrigation lines is significant. Coordination with the farmers involved has partially mitigated the problem but cannot stop it or insure a secure setting.

Rationale

The state section controls the most important large mammal site within the Landmark. This section is surrounded by the Landmark and represents the key to site interpretation. Management actions on this section are limited by the state. Greater management options will be available if the section is acquired. The State Department of Parks and Recreation has already proposed this acquisition by the Bureau of Land Management.

4. Native plant species or species represented in the fossil record of Hagerman will be the only plants allowed to be planted or seeded within the existing boundaries of the Landmark.

Rationale

The natural vegetative cover within the Landmark is considered to be an important part of the overall naturalness of the area. Maintaining the natural aspects of the area is part of the primary objective of this plan. The introduction of non-native species is contrary to that objective.

proposed, the slope of the terrain, and the presence of
vegetation. The slope of the terrain is determined by the
topography of the land. The presence of vegetation is determined
by the type of soil and the amount of rainfall. The slope of the
terrain is determined by the topography of the land. The presence of
vegetation is determined by the type of soil and the amount of
rainfall.

The state section contains the most important large mammals
which are found in the state. This section is determined by the
topography of the land. The presence of vegetation is determined
by the type of soil and the amount of rainfall. The slope of the
terrain is determined by the topography of the land. The presence of
vegetation is determined by the type of soil and the amount of
rainfall. The state section contains the most important large
mammals which are found in the state. This section is determined
by the topography of the land. The presence of vegetation is
determined by the type of soil and the amount of rainfall. The
slope of the terrain is determined by the topography of the land.
The presence of vegetation is determined by the type of soil and
the amount of rainfall.

A. Native plant species on which the mammals are dependent
for food. The native plant species on which the mammals are
dependent for food are the most important. The native plant
species on which the mammals are dependent for food are the most
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native plant species on which the mammals are dependent for food
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mammals are dependent for food are the most important. The
native plant species on which the mammals are dependent for food
are the most important.

5. Studies will be initiated to identify and evaluate the plants and animals presently living within the boundaries and immediate vicinity of the Hagerman National Natural Landmark.

Rationale

A full understanding of the living natural aspects of the area is necessary for understanding recreation use, the interpretive potentials of these values, and the impacts that will result from management actions and uses of the site. This is a significant data gap in our understanding of the natural values of this National Natural Landmark. The potential for the occurrence of threatened or endangered species exists and needs to be evaluated. The species list in the Park Service Landmark report is not substantiated by any basic data, is incomplete, and does not allow for site specific analysis of activity impacts.

6. All actions that have a potential impact on the paleontologic or interpretive values associated with the Landmark will be fully analyzed by and discussed with the Idaho State Museum of Natural History before they are implemented.

Rationale

The Idaho Museum of Natural History is the official state museum of natural history and is the only Idaho source of professional

2. Results will be related to identity and evaluate the impact
and indicate necessary living within the boundaries and
territoriality of the European National Park's landscape.

National

A full understanding of the living natural aspects of the area
is necessary for understanding the landscape and the landscape
potential of these values, and the potential that will result
from management actions and areas of the area. This is a
significant data gap in our understanding of the natural values
of this National Natural Landscape. The potential for the
assessment of management or management planning actions and results
is not evaluated. The question that is the Park's National
report is not substantiated by any data. As indicated,
and data are also not specific analysis of results
impact.

3. All actions that have a potential impact on the landscape
on landscape values associated with the landscape will be
fully analyzed by and discussed with the Landscape Management
National History before they are implemented.

National

The Landscape of National History is the official name of
of national history and is the only name source of protection

vertebrate paleontology expertise. Failure to contact the museum in the past has led directly to the destruction of paleontologic specimens and sites and has significantly impacted scenic and other natural values as well as interpretive values of the National Landmark. This coordination partially implements objective number 3 and is considered essential to proper management of the resources involved.

C. Other Management Decisions

1. All on-site restroom facilities will be self-contained systems.

Rationale

Significant damage to the natural values of the Hagerman National Natural Landmark are occurring because of water entering the sedimentary beds. Potable water wells have been developed in the locally perched aquifer. Waste water discharge to this aquifer system could increase problems by polluting the springs and seeps discharging from the aquifer and contaminating local wells. Facilities are needed on-site for use by the public who visit the area.

various other pathological experiments. Failure to report the
results in the past has led directly to the development of
pathological specimens and also has significantly
impeded scientific and other animal values as well as
interpretive values of the National Laboratory. This
condition has partially prevented objective studies and is
considered essential to proper management of the resources
involved.

C. Inter-Departmental Relations

1. All animal research facilities will be self-contained systems.

Personnel

Significant changes in the national values of the Department
National Laboratory Laboratory are occurring because of values
becoming the contemporary basis. Possible future values have been
developed in the locally varied regions. Where water
abundance in this matter system could increase problems in
collecting the samples and thus increasing time and cost
and consequently level with facilities are needed to meet
the need for the public and still for the

2. Removal of paleontologic materials from the "horse" quarry will only be allowed under conditions similar to the Cleveland-Lloyd Dinosaur Quarry and Dinosaur National Monument. This means that the area will be covered by a permanent structure and excavations will leave most of the material in place and exposed for public viewing.

Rationale

The quarry site is the most important large mammal locality at the Landmark. It has the greatest educational and interpretive potential of any site within the Landmark and is the main reason that the Landmark was established. It also represents the first site discovered at Hagerman. This site is the most commonly visited locality within the Landmark. Removal of material from this site has in the past led directly to destruction of paleontologic materials. Large blocks of rock containing fossils previously removed have still not been fully prepared or published on. Material is, therefore, available for study and the complete removal of new material from the quarry is not necessary.

D. Management Evaluations and Revisions

A Paleontologist or Paleontology Specialist will write an annual report describing the progress made towards accomplishing the specific management actions addressed in this plan. The report

2. Review of paleontological resources from the "Perry" quarry will only be allowed under conditions similar to the Elgin quarry. This means that the area will be covered by a permanent easement and excavations will leave rock of the selected in place and exposed for public viewing.

Nationality

The quarry site is the most important large quarry locality at the quarry. It has the greatest educational and interpretive potential of any site within the quarry and is the main reason that the quarry was established. It also represents the first site discovered at quarry. This site is the most recently visited locality within the quarry. Several of material from this site have in the past been directly to construction of paleontological materials. Large blocks of rock containing fossils previously removed have still not been fully prepared or exhibited as. Material is, therefore, available for study and the complete removal of new material from the quarry is not necessary.

Management Guidelines and Policies

A paleontologist or paleontology specialist will write an annual report describing the progress and towards accomplishing the specific management actions outlined in this plan. The report

will also detail any necessary revisions or new actions that are considered appropriate.

Changes in the condition of the area and its associated paleontologic materials will be evaluated. The information will be derived from the previous year's monitoring of the site.

Data for this report will be obtained from on-site monitoring and continued consultation with the Idaho Museum of Natural History.

The following topics will be specifically discussed in the report.

Management Needs

Changes in the impacts to and condition of the natural values and other values may, in turn, change protection or other management needs. New management needs and changed protection requirements will be evaluated. Options for meeting these changes will be identified.

Management Objectives

The plan's objectives will be evaluated for appropriateness in terms of identified changes in condition, impacts, and needs. The objectives will be modified as needed.

will also detail any necessary revision or new actions that are considered appropriate.

Changes in the condition of the area and its associated paleontologic resources will be evaluated. The information will be derived from the previous year's monitoring of the area.

Data for this report will be obtained from on-site monitoring and continued cooperation with the Idaho Museum of Natural History. The following topics will be specifically discussed in the report.

Management Needs

Changes in the aspects to and condition of the natural values and other values may, in turn, change protection or other management needs. New management needs and changed protection requirements will be evaluated. Options for meeting these changes will be identified.

Management Objectives

The plan's objectives will be evaluated for appropriateness in terms of identified changes in condition, aspects, and needs. The objectives will be modified as needed.

Management Actions

The actions prescribed in the plan will be modified as needed to implement the revised objectives and meet current management needs.

Implementation Priorities and Schedule

The plan implementation schedule and the priorities in implementation will be modified based on an assessment of the revised actions.

Documenting Evaluations

The annual evaluation will be documented in a memorandum to the District Manager which will be placed in the Hagerman file.

Modification

The plan will be revised (rewritten) to reflect the changes resulting from the annual evaluation. Updating of the plan will occur throughout the year by adding data in pencil or by changing items in the current plan. Approval of these modifications shall be made by the District Manager by means of a signed concurrence statement.

Management Review

The actions prescribed in the plan will be modified as needed to implement the revised objectives and meet current management needs.

Implementation Procedures and Methods

The plan implementation schedule and the activities in implementation will be modified based on an assessment of the revised plan.

Resource Allocation

The resource allocation will be determined in a manner consistent with the revised objectives which will be placed in the Resource Allocation.

Monitoring

The plan will be revised (revised) to reflect the change resulting from the current conditions. The plan will cover throughout the year by adding data in detail or by changing items in the current plan. The plan of these modifications shall be made by the Director, however, in case of a significant change.

IV. Resource Information

Site Features

The Hagerman faunal sites are located two miles west of the town of Hagerman along the west bank of the Snake River. Outcrops of the Glens Ferry Formation form a steep wall, with the tops of these bluffs (known locally as the Hagerman Cliffs) being up to 700 feet above the level of the river. The bluffs are dissected by numerous short, steep-walled canyons. Sagebrush dominates the vegetation and is generally better developed on north facing slopes. Precipitation is less than 10" a year. The lands to the west are actively utilized for agriculture. A graded road provides access from the top of the bluffs to river level. Two pumping stations and one electric substation are located along the river within the Landmark (adapted from Bjork, 1970).

Site Area

The location of the Landmark includes all or parts of sections 9, 10, 15, 16, 17, 20, 21, 28, 29, 32, 33, T. 7 S., R. 13 E., and sections 3, 4, 5, T. 8 S., R. 13 E., Boise Meridian, Twin Falls County, Idaho. Topographic map coverage is on the Hagerman 7.5' Quadrangle.

Site Condition

The Hagerman National Natural Landmark has been listed as damaged for many years in the Secretary of the Interior's annual report to

Congress. Slumpage problems have destroyed approximately 32 acres. Severe gullying has also destroyed many areas within the Landmark. The construction of roads, pump stations, powerlines, communication sites, and powersites has destroyed much of the naturalness of the area. The area is classified as being 100% in poor ecological condition.

Significant values remain. These values include scenic, paleontologic, geologic, botanical, wildlife, cultural, educational, interpretive, and recreational values.

Site Deterioration

Site deterioration is continuing to affect the values of this National Landmark. The deterioration will accelerate unless the plans for the site are implemented.

A. Sources of Resource Information

All of the references listed in Appendix A were reviewed to determine the nature of the paleontologic values at the Hagerman National Natural Landmark. The geologic and other natural values were also studied by reviewing those references as well as the references in Appendix B. Past management plans and studies are listed in Appendix C.

Sources used as guides in developing this plan are listed in Appendix D.

Quaternary. Shaping problems have been largely unexplored in the
last 50 years. The last 50 years have also been marked by the lastest
contribution of modern, many nations, particularly since
and particularly has been the work of the nations of the area. The
area is classified as being 100% in poor ecological condition.

Significant values remain. These values include scientific, paleontologic,
geologic, historical, scientific, cultural, educational, interpretive, and
recreational values.

Site Description

The description is continuing to affect the value of this National
Landmark. The description will be revised unless the plan for the
site are implemented.

A. Sources of Resource Information

All of the references listed in Appendix A were reviewed to
determine the nature of the paleontologic values in the National
National Natural Landmark. The geologic and other natural values
were also studied by reviewing those references as well as the
references in Appendix B. The management plan and studies are
listed in Appendix C.

B. Natural Environment

The Hagerman National Natural Landmark is a remarkably unique paleontologic area with significant multiple use natural values. The natural values make the educational, interpretive, and recreational potential of this site superior to any other paleontologic site in Idaho. A complete study of the natural environment of this area has not been made. The 1974 Draft Environmental Statement prepared by the National Park Service gives the most complete description presently available.

| | | | |
|---|--------------------|---------------------------------|-------|
| A | Interpretive Signs | \$7,000.00 (Materials & Design) | |
| | | \$3,000.00 (Labor) | 77 58 |

| | | | |
|---|---------|-------------|-------|
| F | Trailer | \$25,000.00 | 77 58 |
|---|---------|-------------|-------|

Administrative Actions

| <u>Priority</u> | <u>Action</u> | <u>Cost</u> | <u>Completion</u> |
|-----------------|----------------------------------------------------------------|---------------------------|-------------------|
| 1 | 5 1/2 Employees | \$11,340-\$13,026/year | 77 57 |
| 2 | Trailer Acquisition | See Physical Action Table | |
| 3 | State Wildlife Acquisition | | |
| 4 | Native Plants (Seedling of Planting) | Starts with Project | Continued |
| 5 | Biologic Studies | \$5,000.00 | 77 58 |
| 6 | Coordination with Bureau of Natural History and other Agencies | \$1,000.00 year | Continued |

The Department of Natural Environment is a relatively unique
biological area with significant wildlife and natural values.
The natural values and the educational, interpretive, and
recreational potential of this area appear to be
presently being lost. A complete study of the natural
environment of this area has not been made. The 1974
Environmental Assessment prepared by the National Park Service
the most complete description presently available.

V. Implementation Schedule and Cost

Physical Actions

| <u>Priority</u> | <u>Action</u> | <u>Cost</u> | <u>Completion</u> |
|-----------------|---------------------------------|-------------------------------------------------------------|----------------------|
| 1 | Canal Lining | \$600,000.00 (Public Funds) \$150,000.00 (Private Funds) | FY 88 (Estimated) |
| 2 | Sediment Control Dams (each) | \$50.00 (Plastic Liner) \$1,500.00 (Labor) | FY 88 |
| 3 | Tree Planting | \$1,500.00 (Labor) | Spring 87 |
| 4 | Catchment Ponds (Each) | \$2,500.00 | FY 88 |
| 5 | ORV Trail Reclamation | \$100.00 (Seed) \$3,000.00 (Labor) | FY 87 |
| 6 | Interpretive Signs | \$7,000.00 (Materials & Design) \$3,000.00 (Labor) | FY 88 |
| 7 | Trailer | \$20,000.00 | FY 88 |

Administrative Actions

| <u>Priority</u> | <u>Action</u> | <u>Cost</u> | <u>Completion</u> |
|-----------------|-------------------------------------------------------------------------|---------------------------|-------------------|
| 1 | GS 5/7 Employee | \$14,390-\$17,824/year | FY 87 |
| 2 | Trailer Acquisition | See Physical Action Costs | |
| 3 | State Section Acquisition | ? | ? |
| 4 | Native Plants (Seeding or Planting) | Varies with Project | Continuous |
| 5 | Biologic Studies | \$5,000.00 | FY 88 |
| 6 | Coordination with Museum of Natural History and other Agencies | \$1,000.00 year | Continuous |

V. Implementative Schedule and Cost

Physical Action

| Priority | Action | Cost | Completion |
|----------|---------------|------------------------------------------------------------|------------|
| 1 | Order of Work | \$20,000.00 (Physical Work) \$20,000.00 (Physical Work) | 12/55 |
| 2 | Order of Work | \$20,000.00 (Physical Work) \$20,000.00 (Physical Work) | 12/55 |
| 3 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |
| 4 | Order of Work | \$20,000.00 | 12/55 |
| 5 | Order of Work | \$20,000.00 (Physical Work) \$20,000.00 (Physical Work) | 12/55 |
| 6 | Order of Work | \$20,000.00 (Physical Work) \$20,000.00 (Physical Work) | 12/55 |
| 7 | Order of Work | \$20,000.00 | 12/55 |

Administrative Action

| Priority | Action | Cost | Completion |
|----------|---------------|-----------------------------|------------|
| 1 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |
| 2 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |
| 3 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |
| 4 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |
| 5 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |
| 6 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |
| 7 | Order of Work | \$20,000.00 (Physical Work) | 12/55 |

Hagerman National Landmark
Paleontologic References

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APPENDIX A

Hagerman National Natural Landmark

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Department of Natural Resources
Palmer Station, Alaska

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Paleontologic References

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APPENDIX D

Hagerman National Natural Landmark

Documents Used as Guides

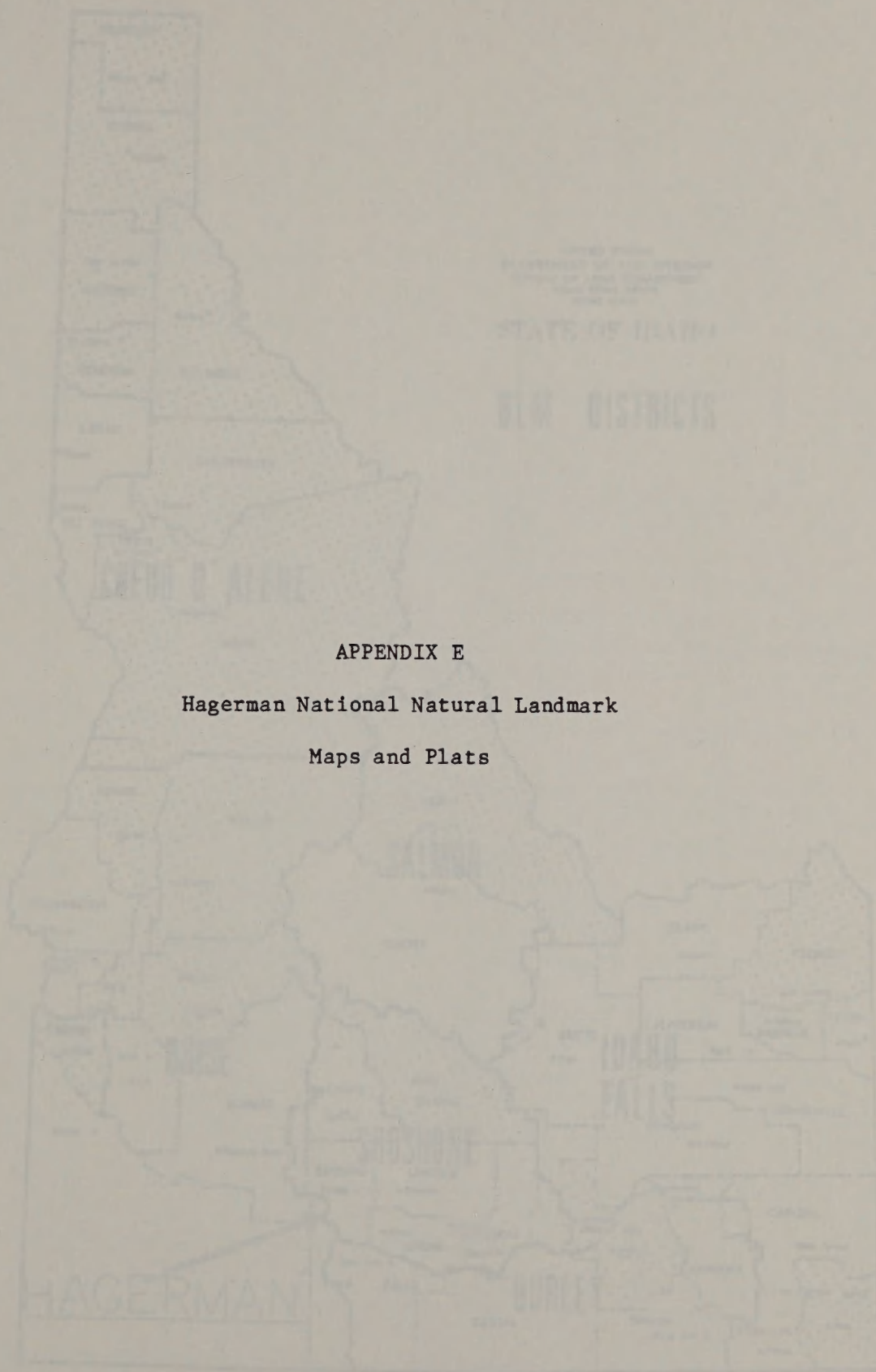
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HISTORICAL RECORDS, NATIONAL ARCHIVES
RECORDS OF THE DEPARTMENT OF THE INTERIOR

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APPENDIX E

Hagerman National Natural Landmark

Maps and Plats

APPENDIX 2

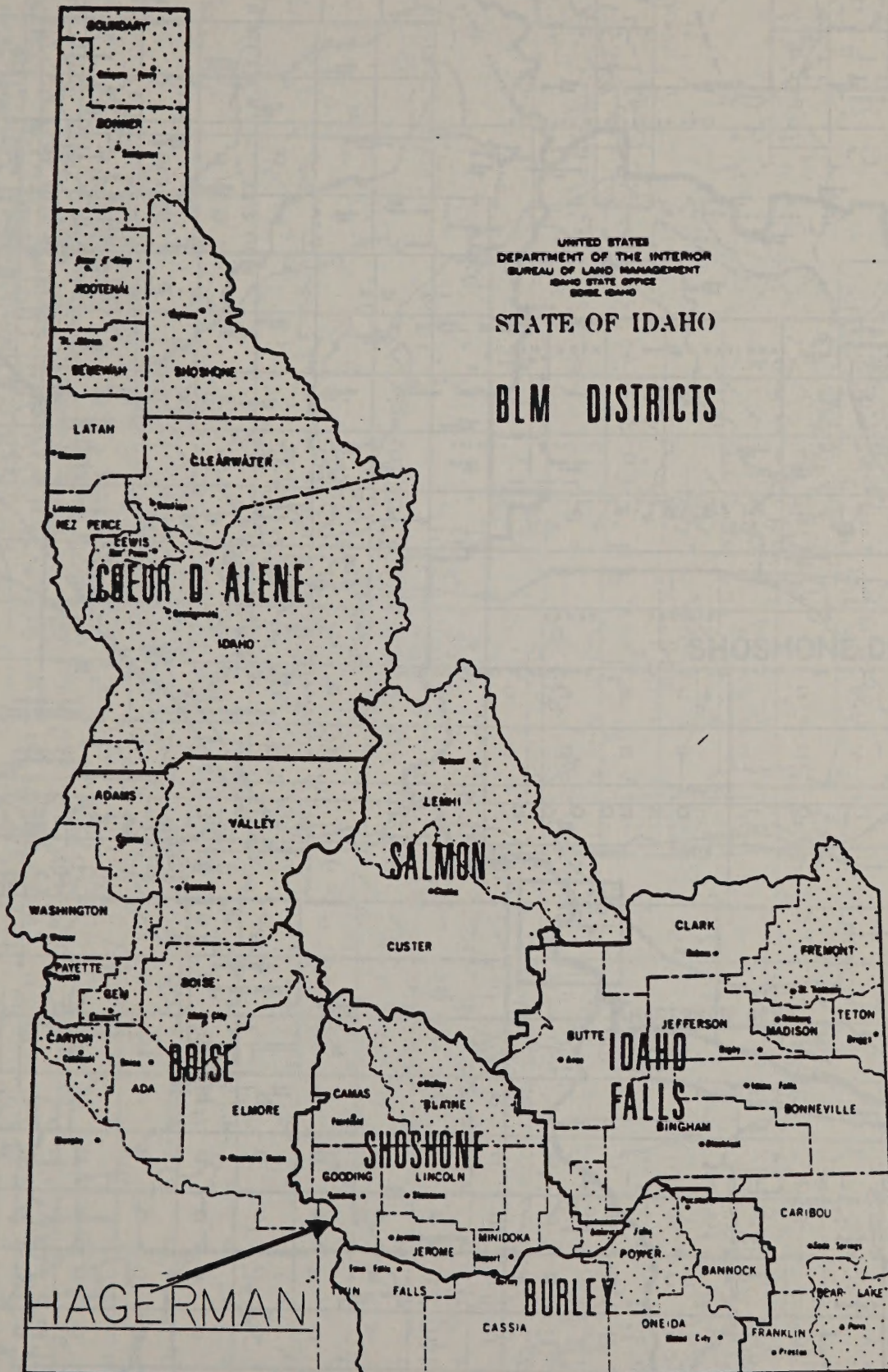
Japanese Colonial Period, 1895-1945

Map of Korea

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
IDAHO STATE OFFICE
BOISE, IDAHO

STATE OF IDAHO

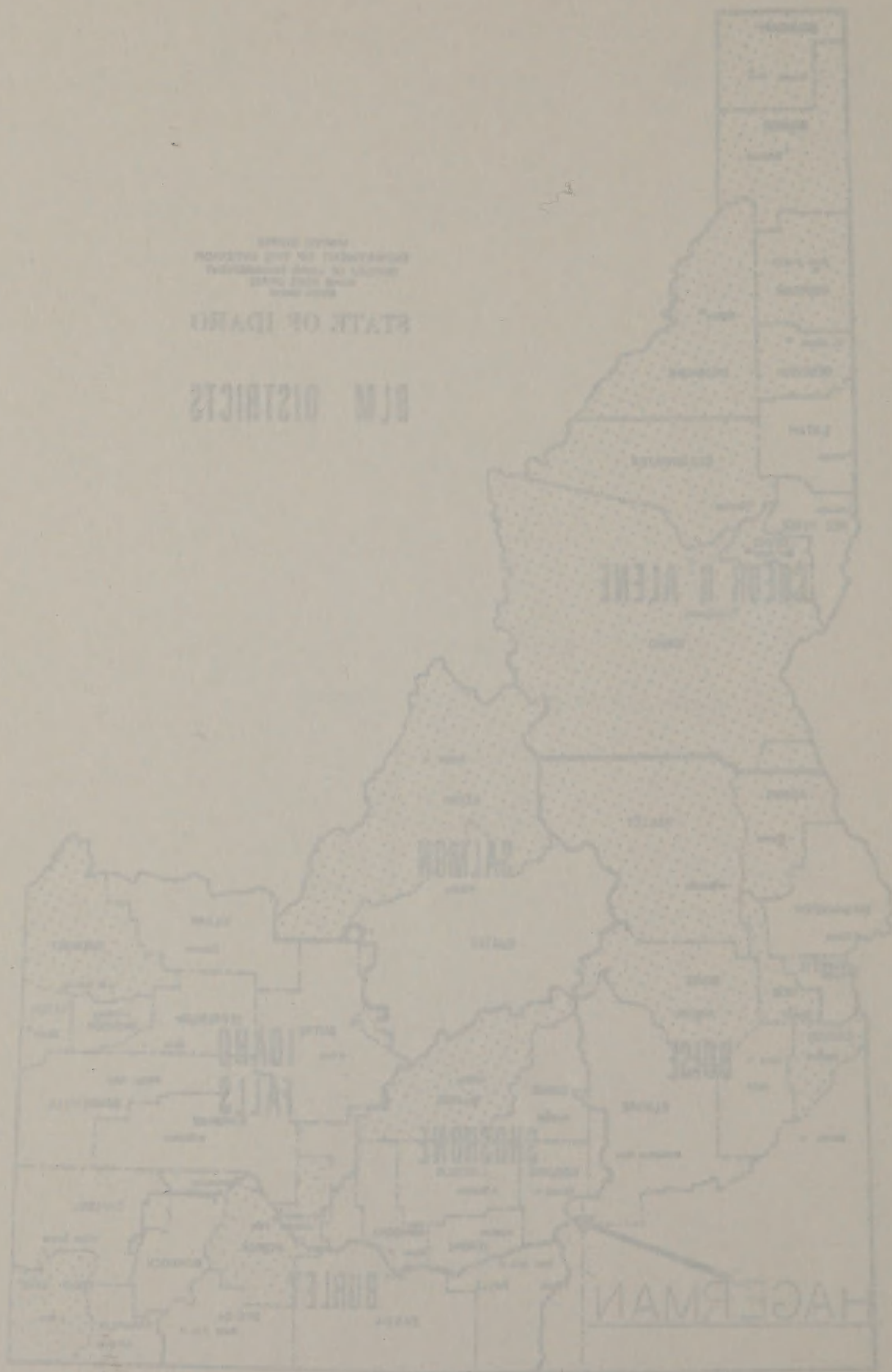
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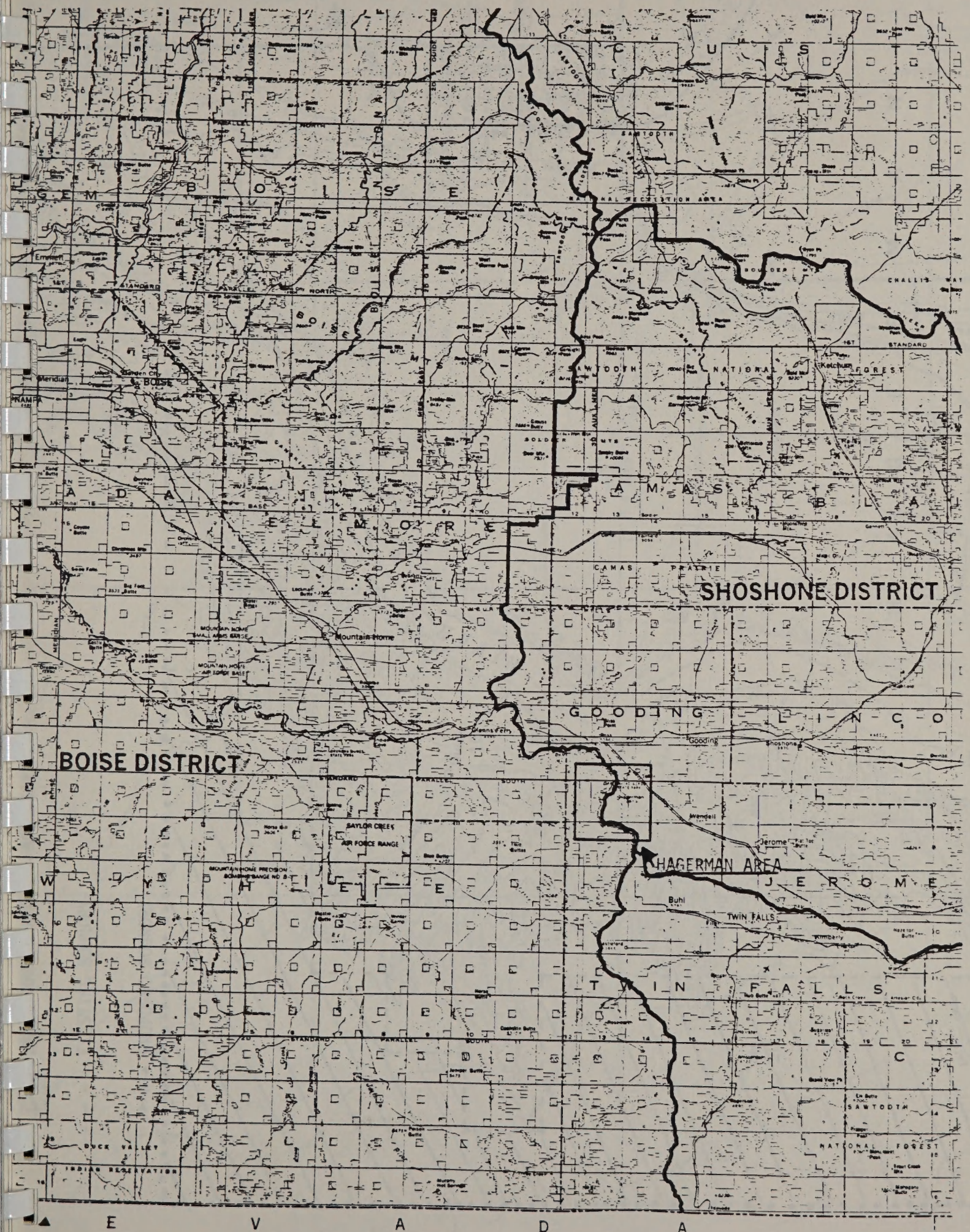


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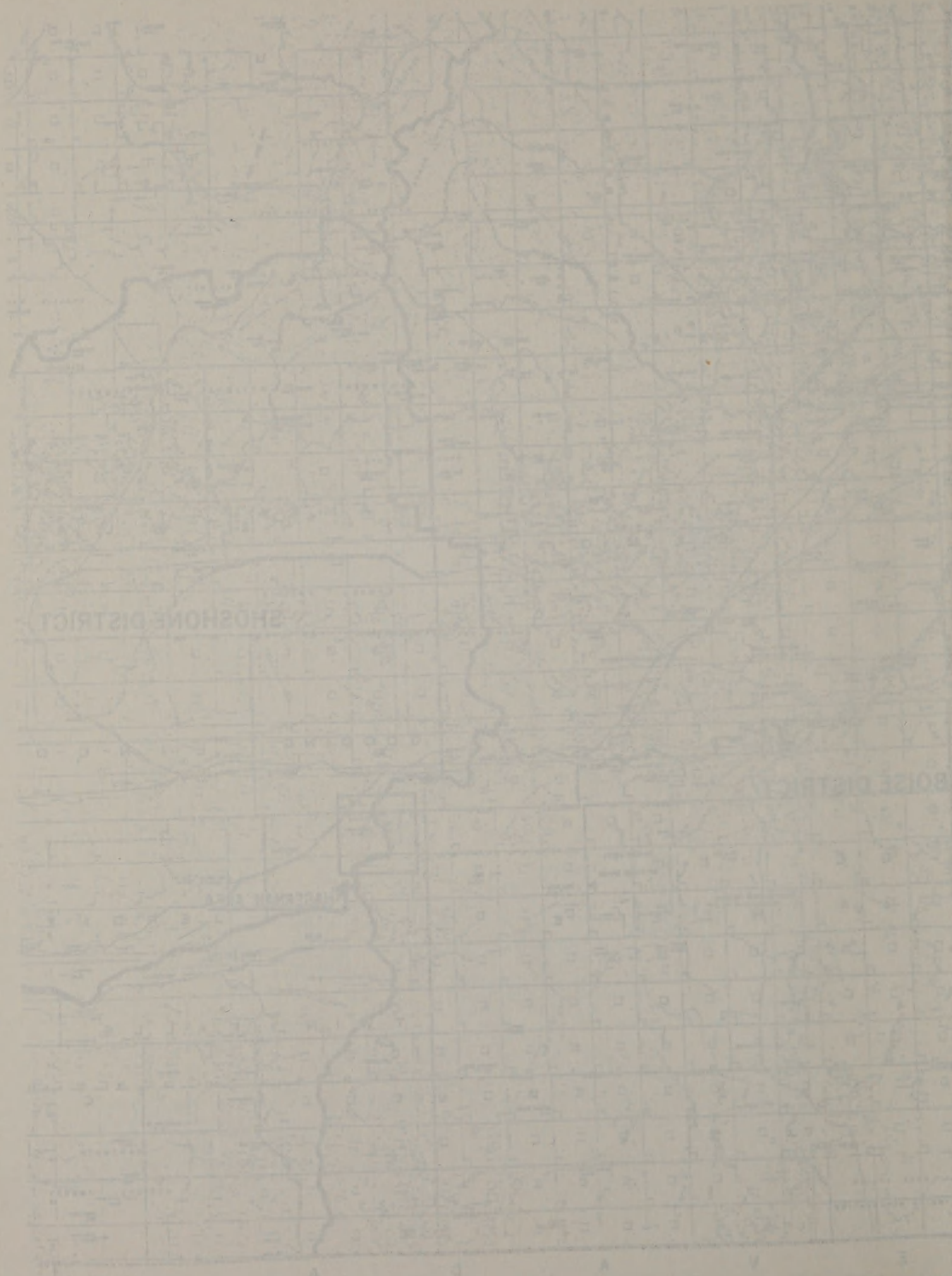


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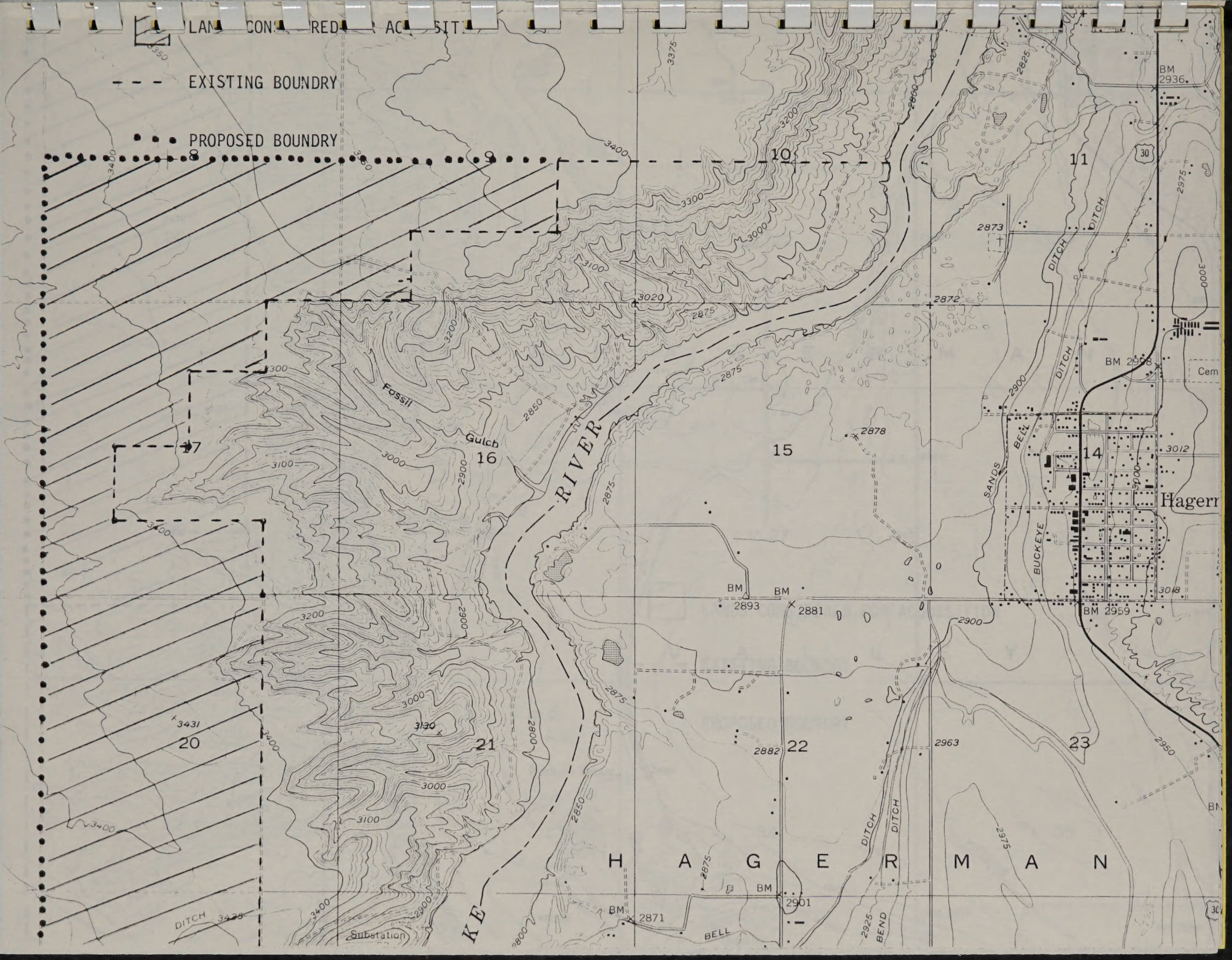
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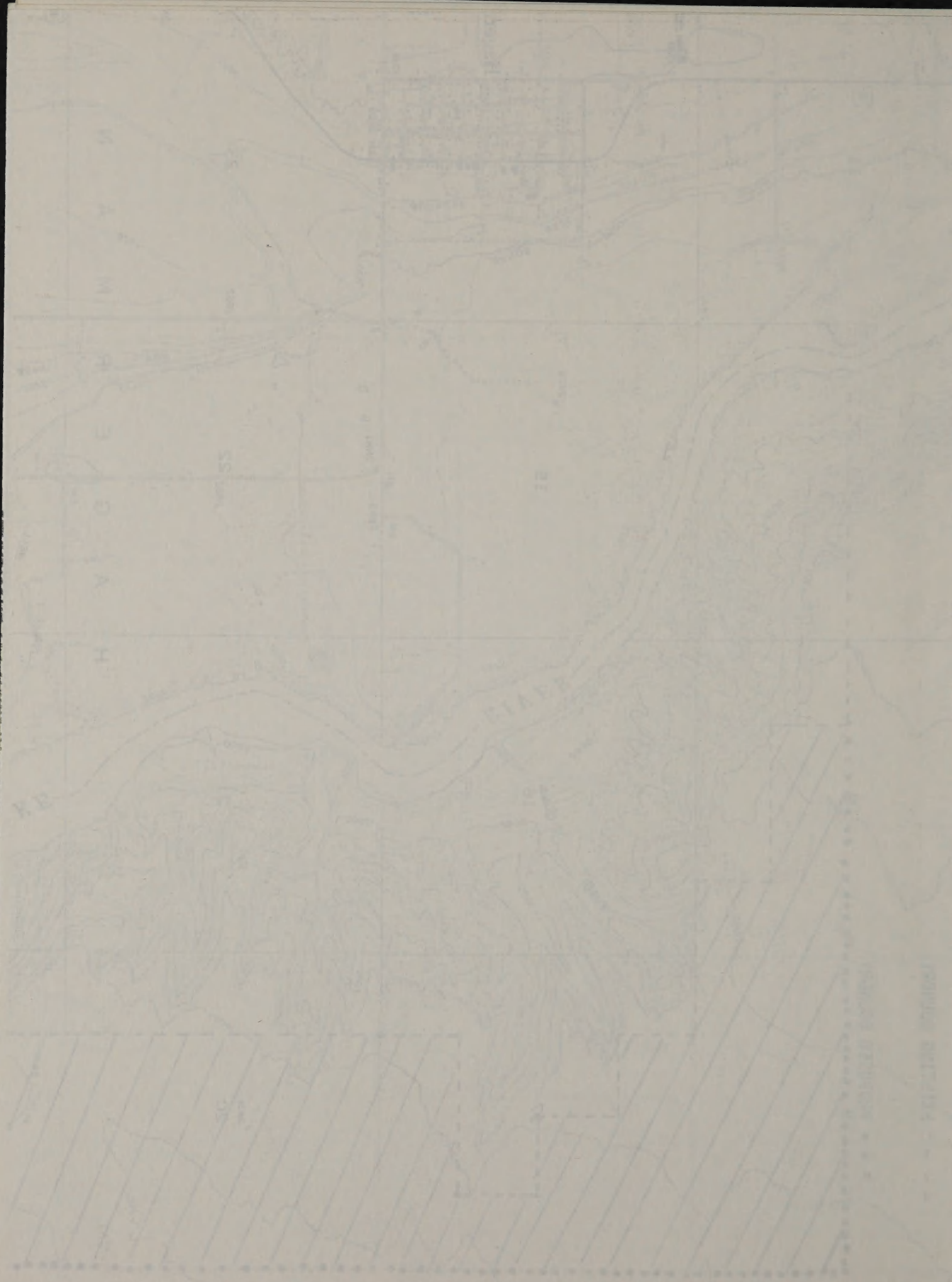
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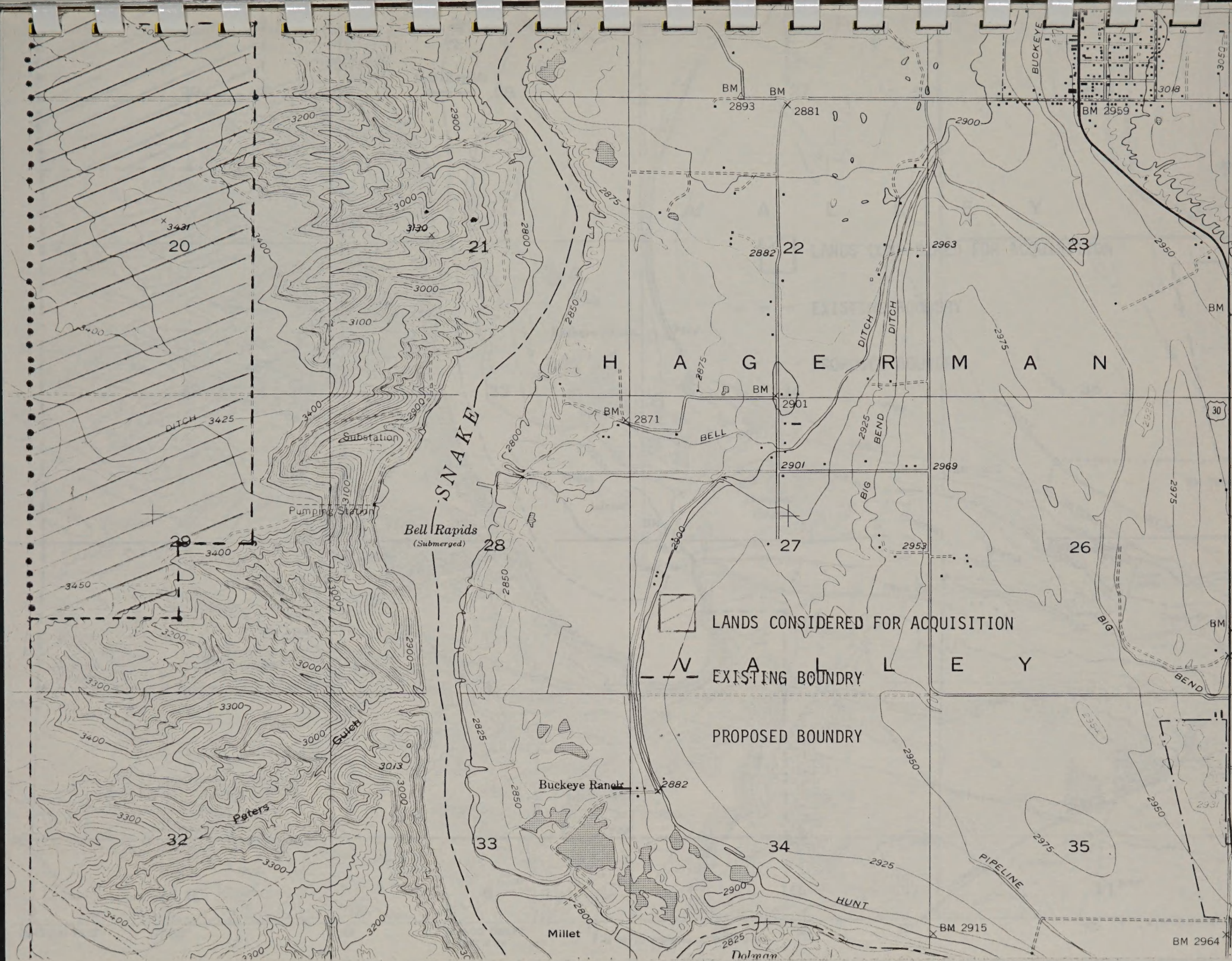
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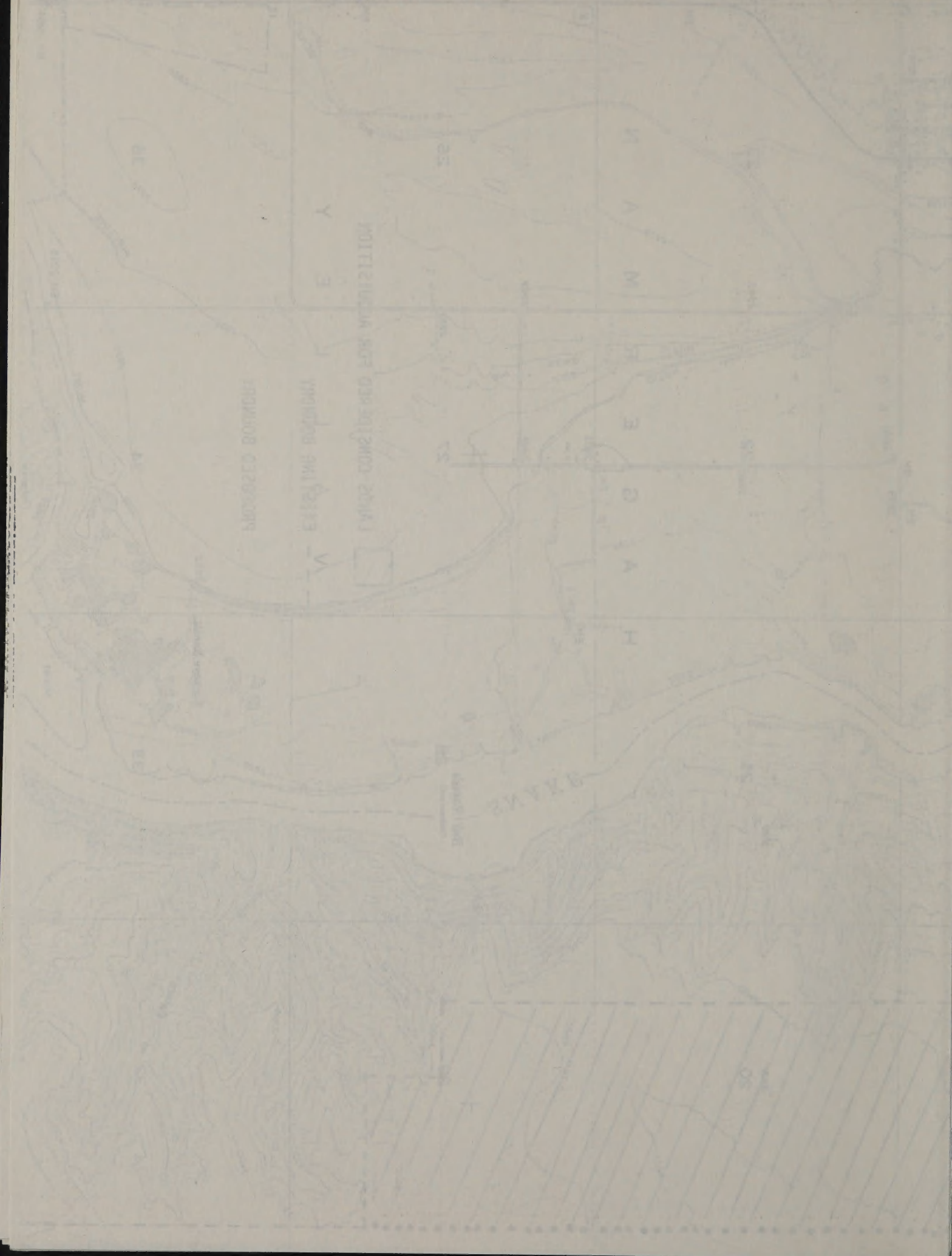
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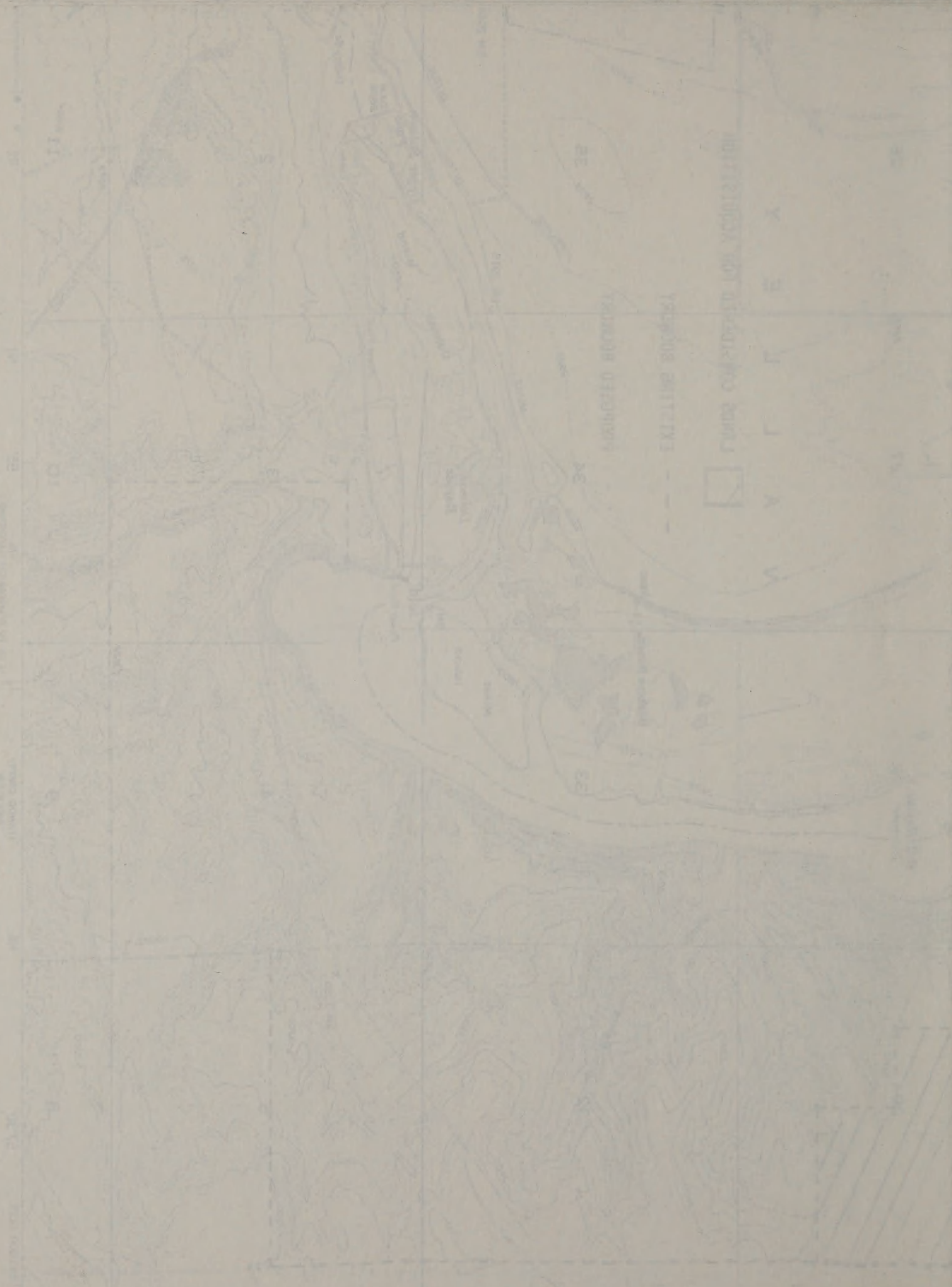
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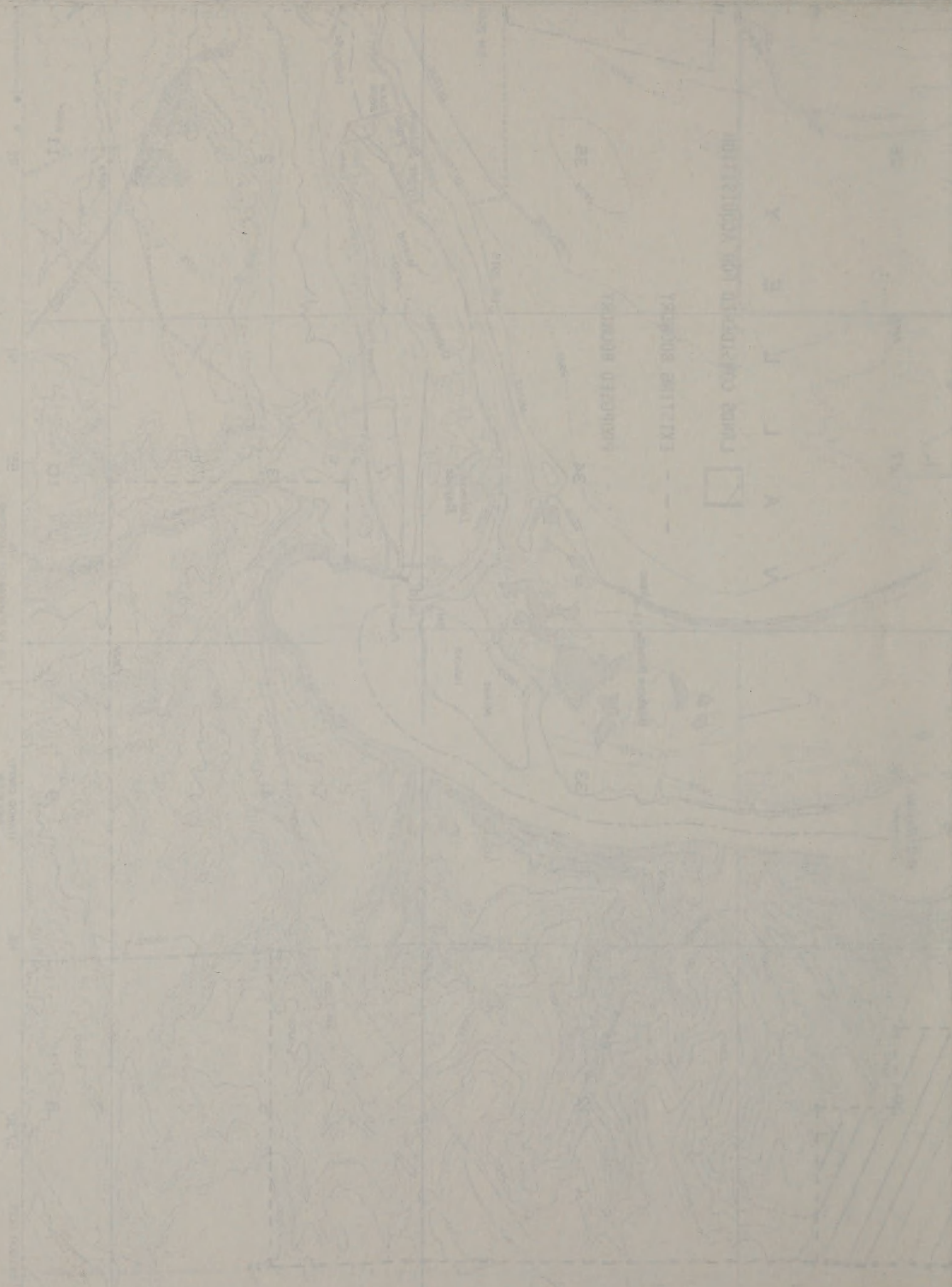
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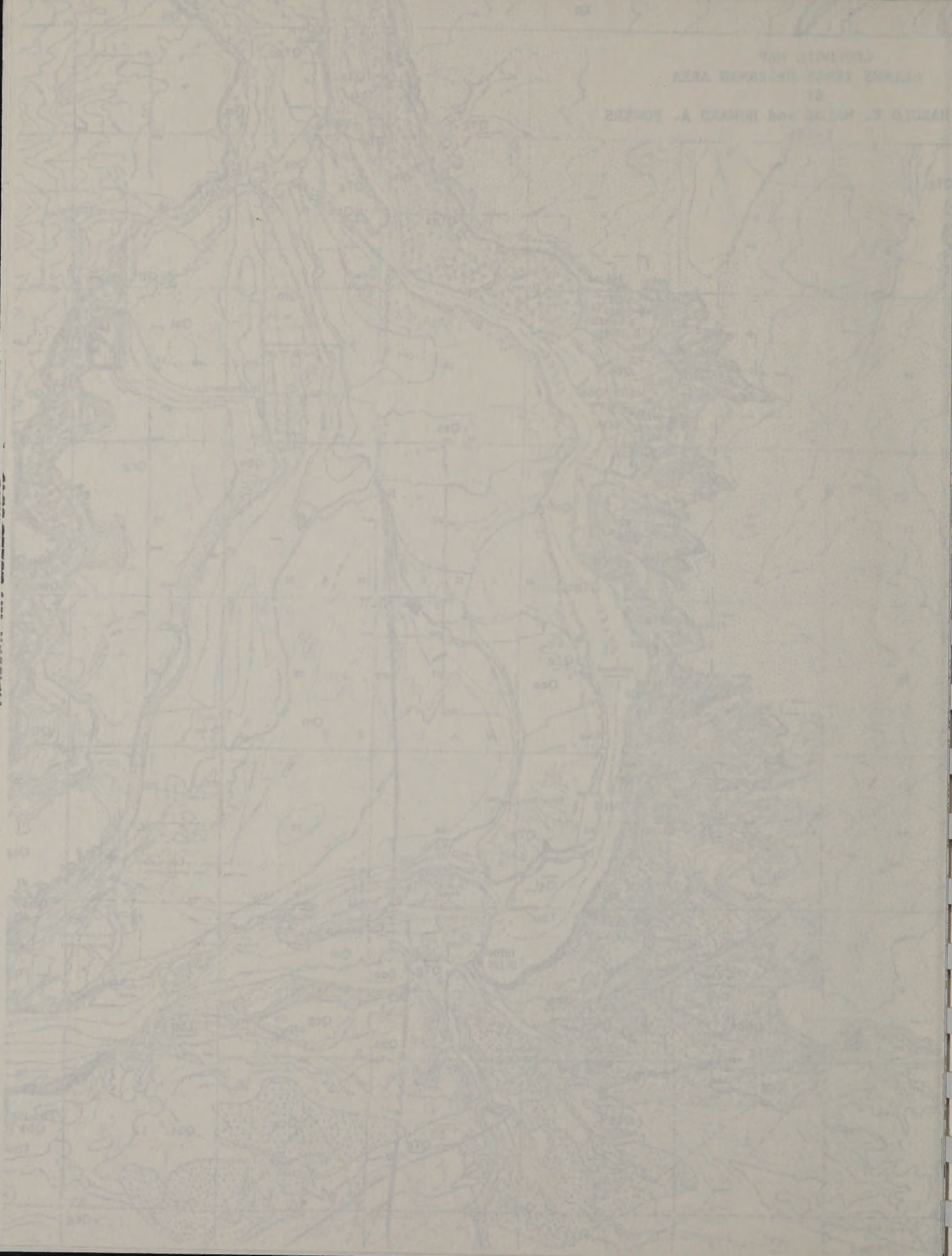


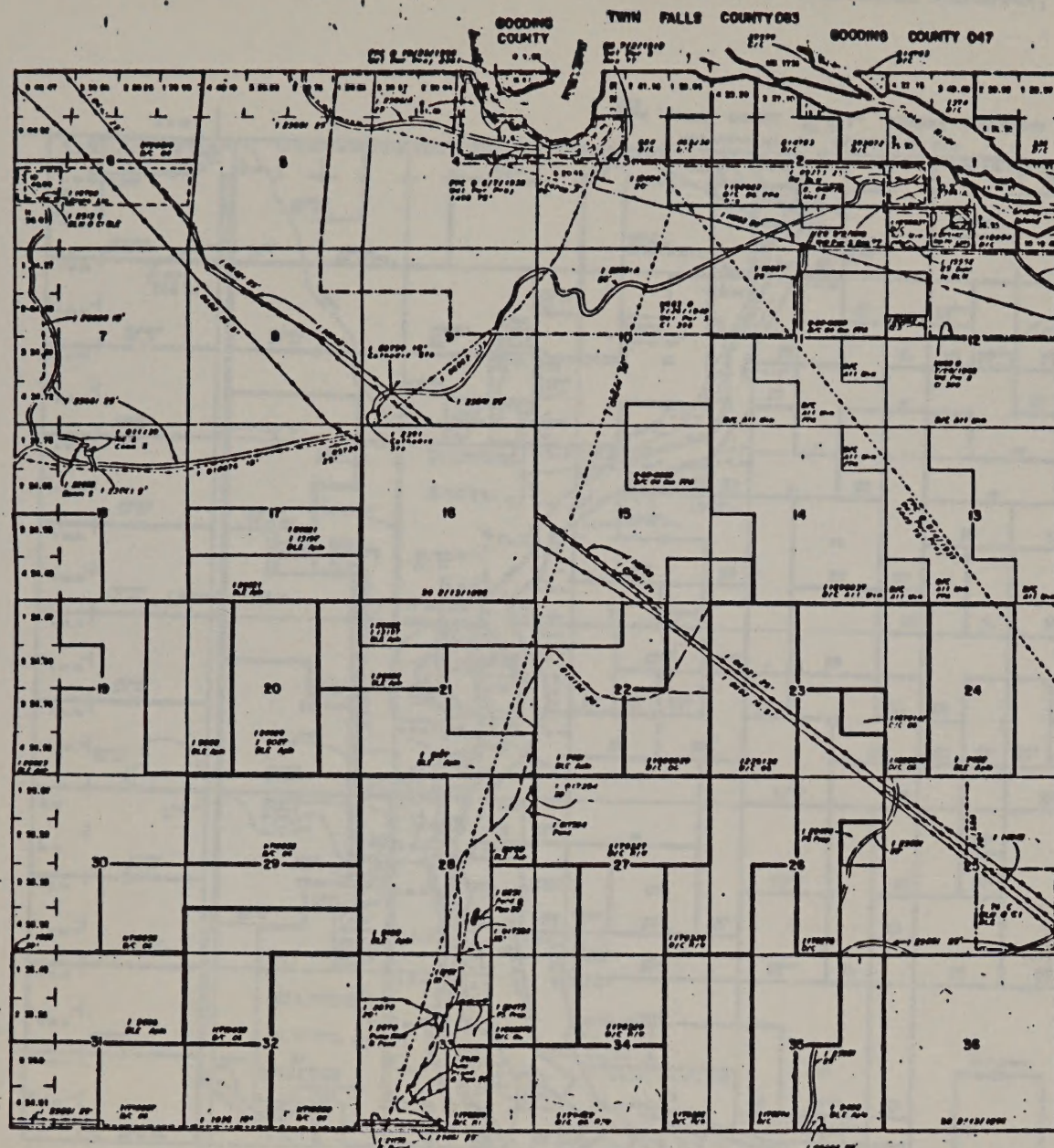
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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF LAND MANAGEMENT

OFFICIAL LAND OFFICE RECORDS AND SURVEY OF LANDS IN THE STATE OF ARIZONA

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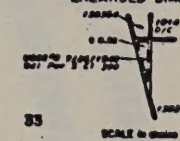
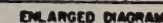


STATUS OF PUBLIC DOMAIN
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FPC 0 12/17/1973. Par Proj. 2081 FPC C 16/23/79
Sec 13: Lots 2,3

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Doc 9: 8/17/1970
Doc 30: 8/17/1970, 8/17/1970



FOR ORDERS EFFECTING DISPOSAL OR USE OF
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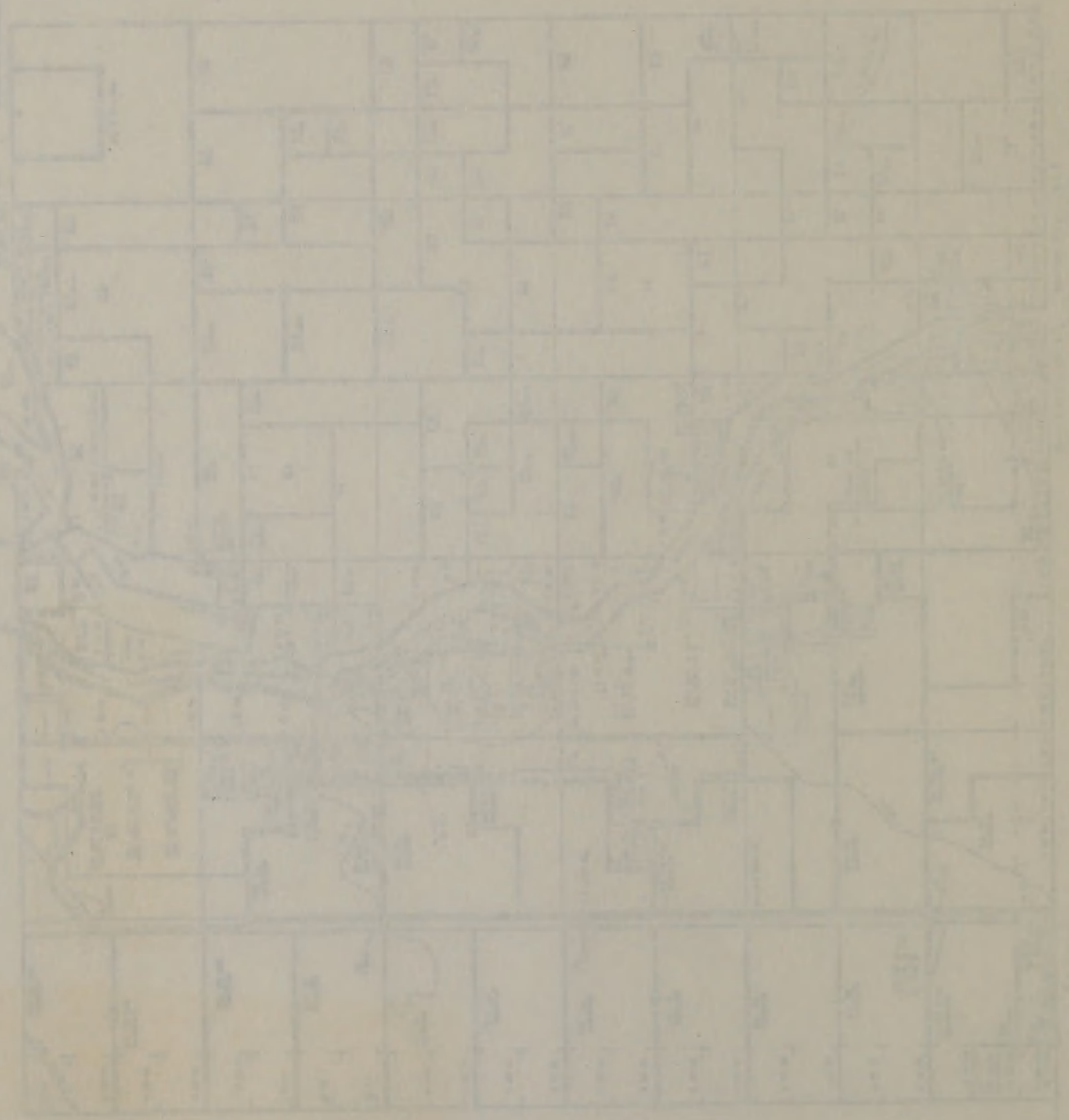
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